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ABSTRACT

This report presents the conclusions of a study begun in 1975 to examine the place of primary care in the United State's health care system, and, particularly, the roles of different categories of primary care professionals. The report contains: (1) an introduction and summary; (2) a definition of primary care indicating its functions, distinctive characteristics, background information, and policy alternatives; and (3) proposed recommendations affecting the supply, distribution, practice arrangements, education, and credentialing of primary care practitioners. Appropriate time periods and responsible groups are suggested for the implementation of each of the 20 recommendations. (Author/BB)

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INSTITUTE OF MEDICINE

REPORT OF A STUDY

A Manpower Policy for Primary Health Care

May 1978

NATIONAL ACADEMY of SCIENCES

Washington, D.C.

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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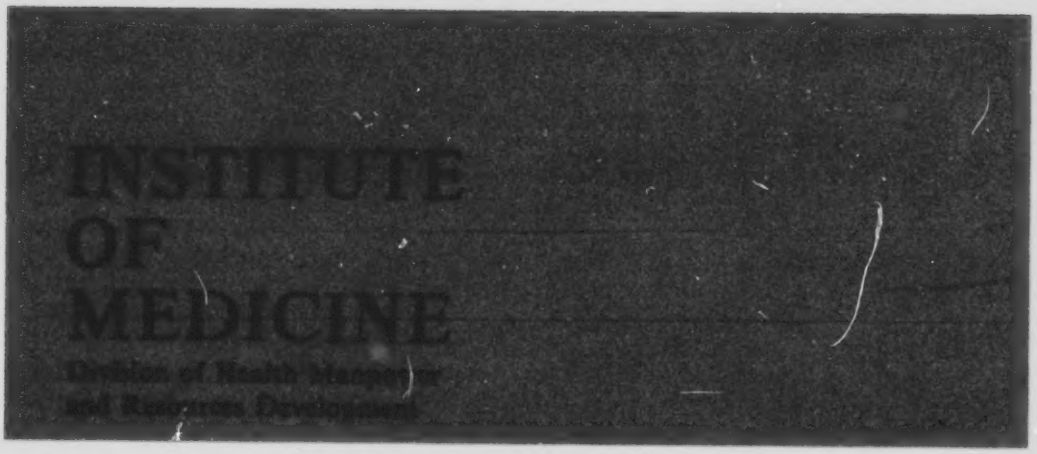

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NOTICE

This is the report of a project undertaken with the approval of the Governing Board of the National Research Council, whose members are drawn from the Councils of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine. The members of the committee appointed to conduct the project and prepare the report were selected for recognized competence and with the due consideration for the balance of disciplines appropriate to the project.

This report has been reviewed by a group other than the authors according to procedures approved by a Report Review Committee consisting of members of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine.

Supported in part by grants from The Robert Wood Johnson Foundation and the W.K. Kellogg Foundation.

The Institute of Medicine was chartered in 1970 by the National Academy of Sciences to enlist distinguished members of medical and other professions for the examination of policy matters pertaining to the health of the public. In this, the Institute acts under both the Academy's 1863 Congressional charter responsibility to be an advisor to the Federal Government, and its own initiative in identifying issues of medical care, research, and education.

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DAVID A. HAMBURG, M.D.
PRESIDENT

May 7, 1978

David E. Rogers, M.D., Sc.D.
President
The Robert Wood Johnson
Foundation
The Forrestal Center
P.O. Box 2316
Princeton, New Jersey 08540

Dear Dr. Rogers:

I am pleased to present to The Robert Wood Johnson Foundation the final report of the Study to Develop an Integrated Manpower Policy for Primary Care, conducted by the Institute of Medicine of the National Academy of Sciences. The study was undertaken with the foundation's generous support to formulate a cohesive health manpower policy for assuring the accessibility and appropriateness of primary care delivery. The study was based on a determination of the functions served by the primary care system and judgments about the roles of different categories of primary care manpower.

Entitled A Manpower Policy For Primary Health Care, the report contains an introduction and summary, a definition of primary care indicating its functions and distinctive characteristics, and background information, policy alternatives, and proposed recommendations affecting the supply, distribution, practice arrangements, education, and credentialing of primary care practitioners. Appropriate time periods and responsible groups are suggested for the implementation of each of the 20 recommendations. Staff papers developed in the study are not contained in the report but are publicly available in limited supply.

We shall be pleased to discuss this report in greater detail with you and your colleagues in The Robert Wood Johnson Foundation.

Cordially,

David A Hamburg

Enclosure

INSTITUTE OF MEDICINE
NATIONAL ACADEMY OF SCIENCES
2101 CONSTITUTION AVENUE WASHINGTON, D.C. 20418

DAVID A. HAMBURG, M.D.
PRESIDENT

May 7, 1978

Russell G. Mawby, Ph.D.
President
W. K. Kellogg Foundation
400 North Avenue
Battle Creek, Michigan 49016

Dear Dr. Mawby:

I am pleased to present to the W.K. Kellogg Foundation the final report of the Study to Develop an Integrated Manpower Policy for Primary Care, conducted by the Institute of Medicine of the National Academy of Sciences. The study was undertaken with the foundation's generous support to formulate a cohesive health manpower policy for assuring the accessibility and appropriateness of primary care delivery. The study was based on a determination of the functions served by the primary care system and judgments about the roles of different categories of primary care manpower.

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We shall be pleased to discuss this report in greater detail with you and your colleagues in the W.K. Kellogg Foundation.

Cordially,

David A. Hamburg

Enclosure

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Division of Health Manpower and Resources Development

Project Staff

Richard M. Scheffler, Ph.D., Division Director and Project Director

Gloria Ruby, M.A., Research Associate

Neil Weisfeld, J.D., M.S.Hyg., Research Associate

Juliana Goldberg, M.A., Editor

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Many individuals and organizations assisted the committee and staff in preparing this report and in offering valuable comments in earlier drafts. Some of them whom I would like to acknowledge especially are listed below.

A special thanks to Ouida Upchurch who was the study director until September 1, 1977. She was largely responsible for the interim report, A Definition of Primary Care (reproduced as part of Chapter 2 of this report). She also authored some of the staff papers.

Sunny Yoder provided substantive and editorial comments on the final draft of the report.

Thomas Delbanco, a Robert Wood Johnson Health Policy Fellow, Jack Hadley of the Urban Institute, and Lauren LeRoy of the University of California at San Francisco Health Policy Program provided useful comments on the initial draft of the report.

Jon Gabel and William S. Sobaski of the Health Care Financing Administration of the Department of Health, Education, and Welfare (DHEW) consulted with the staff on reimbursement issues. The National Center for Health Statistics, DHEW, provided special tabulations from The National Ambulatory Medical Care Survey.

Dr. Howard Stambler, Chief of the Manpower Analysis Branch, Office of Program Development of the Bureau of Health Manpower, DHEW, offered important data and information on health manpower.

To Linda Depugh and Dawn Gustafson, I would like to express a deep appreciation for their patience and hard work in the preparation and typing of the report.

Richard M. Scheffler
Division Director and
Project Director

CONTENTS

	Page
Chapter 1 - INTRODUCTION AND SUMMARY	1
Policy Issues in Primary Care	
Scope and Methodology of the Study	
Summary of Recommendations	
Staff Papers	
Chapter 2 - PRIMARY HEALTH CARE DEFINED	15
The Definition	
A Primary Care Checklist	
Chapter 3 - PRACTICE ARRANGEMENTS FOR PRIMARY HEALTH CARE	29
Content of Primary Care Practice	
Physicians Providing Primary Care	
Physician Assistants and Nurse Practitioners Providing Primary Care	
Practice Arrangements	
Chapter 4 - THE SUPPLY AND DISTRIBUTION OF PRIMARY HEALTH CARE PRACTITIONERS	41
The Supply of Physicians	
Supply of Nurse Practitioners and Physician Assistants	
The Supply of Physicians in Primary Care Disciplines	
Strategies to Increase the Supply of Physicians in Primary Care Disciplines	
Geographic Distribution of Primary Care Practitioners	
Monitoring and Research Needs	
Chapter 5 - EDUCATION FOR PRIMARY HEALTH CARE PRACTICE	67
Evolution of Medical Education	
The Number of Physicians Trained in Primary Care	
Public Support for Primary Care Residency Programs	
Primary Care Medical Education	
Credentialing Policies	
Chapter 6 - CONCLUSION: THE SCHEDULE OF IMPLEMENTATION	93
COMMENT - LORETTA C. FORD, R.N., Ed.D.	105

Chapter 1

INTRODUCTION AND SUMMARY

The complexity of the health services industry in the United States has, in recent years, heightened public and professional interest in primary health care. Access to the entire range of health services has its focus on the primary care practitioner, who also is expected to coordinate the services and to assure continuity of care.

The importance of an adequate supply of primary care practitioners in the U.S. began to receive increased public attention during the 1960s. By 1976 the Congress declared, in the statutory preamble to the Health Professions Educational Assistance Act, that the availability of health care in general depends largely on the availability of primary care practitioners.

Because appropriate manpower resources are essential to an effective primary care strategy, the Institute of Medicine undertook the study reported here to propose recommendations that would coordinate many important aspects of primary care manpower policy and to help assure that the development of that policy is based on appropriate information. An interest in contributing to the development of a national health manpower policy was initially expressed by Institute of Medicine members considering the Institute's own program in the spring of 1972. A work group on health manpower proposed a study to examine the place of primary care in the U.S. health care system, and particularly the roles of different categories of primary care professionals. This report presents the conclusions of that study, begun in 1975.

POLICY ISSUES IN PRIMARY CARE

Primary health care is defined in this report as accessible, comprehensive, coordinated, and continual care provided by accountable providers of health services. It is generally recognized as the first level of personal health services (as distinguished from public, environmental, and occupational health services), where initial professional attention is paid to current or potential health problems. Frequently, primary care is associated with care of the "whole person" rather than care for an illness.

The term 'primary care' has gained wide usage in the present decade, although the concept is not new. In the United States, national attention began to be focused on primary care in the mid-1960s. At that time

a series of commission reports by health leaders in the private sector proposed the development of training programs to prepare physicians to deliver comprehensive and continual care. 1/ These reports reflected a conviction that more socially oriented care, responding to a wide range of patients' problems, was needed to complement the growing medical use of highly specialized services and technological procedures.

An increase in programs to train physicians for primary care has been accompanied by increased interest in having coordinated care delivered by an interdisciplinary team of physicians, nurses, and other therapists who can provide diverse services to the patient. 2/ To supplement physician services and make primary care available to medically underserved populations, programs have been established with federal support to train nurse practitioners and physician assistants. 3/*

A growing body of literature 4/ indicates that a small number of issues have been paramount in discussions of primary care policy:

1. What is the scope of primary care? How should primary care be defined? What categories of health professionals are primary care practitioners?

2. What would be an adequate supply of primary care practitioners? What are the dimensions of any current or projected national shortage of primary care practitioners?

3. How can an appropriate distribution of manpower be attained in order to meet nationwide primary care needs? What public financial incentives and education policies are appropriate to help assure the availability of primary care in rural areas and inner cities? What financial incentives and education policies should be used to help assure the commitment of sufficient professional manpower to primary care vis-a-vis "secondary" or "tertiary" care?

*In this report, the term 'nurse practitioner' refers to a graduate of an approved continuing or graduate education program to train registered nurses to become nurse practitioners. 'Physician assistants,' including MEDEX, are either graduates of approved physician assistant programs or other persons certified as physician assistants. Nurse practitioners and physician assistants are referred to collectively as "new health practitioners."

4. How and where should primary care practitioners be educated and trained? What attention should be paid to primary care in the education of physicians and other health professionals? What efforts are needed, if any, to devote sufficient educational resources to primary care? How should primary care practitioners and training programs be credentialed?

As a whole, these issues require the development of a comprehensive health manpower policy for primary care. Manpower considerations have been prominent in the evolution of primary care policy, partly because of the importance of education and other health manpower considerations to the reduction of primary care shortages. Also, manpower considerations are basic to primary care policy because primary care is highly labor-intensive, relying more on personal communication and perhaps less on sophisticated equipment than do "secondary" or "tertiary" levels of care.

Unfortunately primary care manpower issues must still be considered without the benefit of knowing where health care stops and social services begin. Preventive and promotional health education, counseling of patients, and continuity of care are all features of primary care with important social as well as medical implications. Therefore, manpower policies developed in this and earlier reports on primary care may have to be reconsidered when the bounds of health care are more clearly defined and the effects of primary care services on health outcomes are better understood. In this report, health manpower policy concerns are linked with a range of services that includes diagnostic and therapeutic procedures and health education.

SCOPE AND METHODOLOGY OF THE STUDY

The conduct of this study has been based on the belief that a reasoned choice among objectives is necessary for the development of primary care manpower policy. Alternative goals and strategy options have been considered by the study steering committee and are presented in this report along with the committee's recommendations.

The study mandate was to develop an "integrated" primary care manpower policy. In the committee's view, an integrated policy embraces all major categories of primary care practitioners and serves to coordinate all important policy actions affecting their use. This report therefore addresses not only such traditional manpower concerns as public funding of education, credentialing of practitioners, and qualitative and quantitative aspects of training programs, but also the scope of primary care services, their reimbursement, and health services research. These latter issues so deeply affect the use and supply of primary care manpower that they must be included, in the committee's judgment, in any comprehensive and integrated, primary care manpower policy.

Functions and Roles

The output of the study was originally intended to be a determination of both the functions of primary care and the roles of different types of professionals in primary care. Functions and roles were thought to be the appropriate bases of an integrated primary care manpower policy. Consequently, the committee's first product, a definition of primary care, is an attempt to delineate primary care functions as fully as can now be done for purposes of public policy. That definition has been published as an interim report 5/ and is reproduced as Chapter 2 of this volume.

The committee, however, came to believe that an explication of the roles of different professional groups was not now a practical, policy-oriented undertaking. In primary care, such roles overlap greatly and vary among practice settings and geographic locations. Roles often are not commensurate with training and experience. Occupational roles only now are being developed for the relatively new professional categories of family physicians, nurse practitioners, and physician assistants. Moreover, the activities of different professions may be merged in a team approach to health care. 6/

Activity of the Committee

The committee began its two-year inquiry with a general goal of recommending policy toward an appropriate supply of trained practitioners providing high quality primary care to all populations in the country. In order to refine that goal, the committee developed a definition of primary care and a checklist with which to determine whether a provider is delivering primary care as defined. 7/

Because of the importance of the topic and wide interest in the study, the committee early in its deliberations formally solicited ideas and opinions from nearly one hundred concerned organizations and individuals. Statements by 18 organizations and individuals were presented at a one-day open meeting of the committee at the National Academy of Sciences in Washington, D.C., in January 1976. 8/

The committee met regularly to formulate a definition of primary care and to develop recommendations about the credentialing of primary care practitioners and their legal liability, the use and acceptance of nurse practitioners and physician assistants, and the financing of primary care services. Recommendations also were developed on the supply and distribution of primary care practitioners, the day-to-day content of primary care practice, and the contribution to primary care made by professional groups other than physicians in primary care disciplines, nurse practitioners, and physician assistants.

Policy options and research needs were considered in each of these areas. The committee made its conclusions on the basis of the best available data and research findings; in some areas, however, it was compelled to exercise judgment in the absence of numerical data. Information used by the committee in arriving at recommendations included

published and unpublished material, papers prepared by the staff at the committee's request, presentations at the 1976 open meeting, and knowledge based on the committee's own expertise. No original research was undertaken by the committee.

SUMMARY OF RECOMMENDATIONS

Chapters 2 through 5 of this report present background discussion, policy options, and recommendations in each major area that the committee considers important to the development of primary care manpower policy. The concluding section (Chapter 6) proposes a schedule for implementing the recommendations. Each recommendation is meant to be feasible, broad enough to guide activity for several years, and important for meeting the nation's primary care needs.

In Chapters 2 through 5, the essential data and evidence about the major topics are presented. These are followed by a description and evaluation of each of the policy options considered by the committee. Committee judgments, opinions, and beliefs are noted, as are the intended effects of each recommendation.

Chapter 2: Primary Health Care Defined

Opinions of various interested groups and existing definitions were reviewed to reach a consensus on the definition of primary care. The committee agreed that primary care should be accessible, comprehensive, coordinated, continual care delivered by an accountable provider of health services. The chapter also includes a checklist for determining whether a given health care provider is delivering primary care as defined.

Chapter 3: Practice Arrangements for Primary Health Care

The health problems and diagnoses most frequently recognized by physicians in primary care disciplines indicate the range of primary care services. Twenty-four diagnoses accounted in 1975 for about half of all office visits to general practitioners, family physicians, internists, pediatricians, and obstetricians and gynecologists in the United States. Visits to these physicians account for two-thirds of all office-based physician visits. Primary care is also delivered by nurse practitioners and physician assistants, approximately three-fourths of whom are employed in primary care settings.

Prototypes of primary care practice arrangements include single specialty units (including family physicians), multispecialty units, family practice teams, and multispecialty teams. Teams include physicians and new health practitioners. Currently, three-fourths of practicing U.S. physicians work in solo or two-physician practices. The committee recommends that (Recommendation #1) because no practice arrangement has been found consistently superior to any other, primary care as defined in this report should continue to be delivered by

various combinations of health care providers in a variety of practice arrangements. Diversity in delivery methods is advocated so that a flexible primary care system can benefit from a pluralistic approach to the needs of different types of communities.

Chapter 4: The Supply and Distribution of Primary Health Care Practitioners

Primary care manpower supplies and needs now constitute a major health policy consideration. The manpower issues include the overall supply of physicians and new health practitioners, physician specialty and geographic distribution, and monitoring and research priorities.

The committee notes that the supply of physicians in the United States will increase more than 60 percent by 1990 if total medical and osteopathic school enrollments continue at their current level. Physician productivity, population needs, and financial considerations make the adequacy of physician supply difficult to measure and evaluate, but the committee finds no reason to continue to increase the number of medical students across the country. However, it believes that an increasing number of future physicians should be in primary care. Pending progress in determining the adequacy of physician supply, it is urged that (Recommendation #2) for the present, the number of entrants to medical school should remain at the current annual level.

The supply of new health practitioners - nurse practitioners and physician assistants - is expected to exceed 40,000 in 1990, although only 9,500 new health practitioners had graduated from DHEW formal training programs by 1976. The committee is impressed by the quality of care delivered by new health practitioners. Their productivity, potential use to medically underserved populations, ability to deliver health education and counseling, and cost-containment potential justify financial support of their training. Because of the projected rise in physician supply, however, an increase in the training rate of nurse practitioners and physician assistants now appears undesirable. In the committee's judgment (Recommendation #3), for the present, the number of nurse practitioners and physician assistants trained should remain at the current annual level.

Reimbursement strategies were considered as a method for making primary care practice more attractive to physicians. The proportion of physicians in primary care disciplines has fallen from 94 percent in 1931 to 42 percent in 1963 and 38 percent in 1975. The committee rejects the option of increasing the number of physicians in primary care disciplines by increasing total physician supply. The committee instead proposes the following changes in reimbursement policies:

(Recommendation #4) Third-party payors (federal, state, and private) should reimburse all physicians at the same payment level for the same primary care service. This change would assure that physicians

in primary care disciplines receive the same fees as other physicians for equivalent services. Higher fees would be justified only for specialty services provided on physician referral. Fee levels would be statewide under Recommendation #8.

(Recommendation #5) Third-party payors (federal, state, and private) should reduce the differentials in payment levels between primary care procedures and non-primary care procedures. The committee is not satisfied that current reimbursement practices provide adequate compensation for primary care services compared with surgery and other non-primary care services.

(Recommendation #6) Third-party payors (federal, state, and private) should institute payments to practice units for those necessary services delivered by primary care providers and currently not reimbursed, such as commonly accepted health education and preventive services. The delivery of comprehensive care stressing health maintenance is inhibited by a failure to reimburse for the full range of primary care services. Tests for efficacy and demonstration or special projects are suggested in initiating reimbursement of primary care providers for work in the prevention of illness and health education.

The geographic distribution of primary care physicians is another subject addressed in Chapter 4. In the committee's judgment (Recommendation #7), training programs for family physicians, nurse practitioners, and physician assistants should continue to receive direct federal, state, and private support, because these practitioners are the most feasible providers of primary care to underserved populations. Also, some changes in reimbursement policies are advocated to encourage primary care practitioners to serve in shortage areas, although the committee recognizes a dearth of available evidence linking reimbursement levels to physician location. The suggested changes are the following:

(Recommendation #8) Third-party payors (federal, state, and private) should discontinue all geographic differentials in payment levels for physician services within a state. This recommendation would eliminate any payment practice affording greater reimbursement to physicians in adequately served areas than to physicians in rural, underserved areas.

(Recommendation #9) Third-party payors (federal, state, and private) should reimburse the practice unit for the same primary care services at the same payment level regardless of whether the services are provided by physicians, nurse practitioners, or physician assistants. Lower reimbursement for new health practitioners suggests a two-tiered system of care, overlooks the high quality of services provided by nurse practitioners and physician assistants, and could hinder their employment. Practice units eligible for reimbursement could be owned by physicians, other health professionals, and private or public organizations.

The committee also examines the importance of monitoring and researching the success of an integrated primary care manpower policy. The committee believes (Recommendation #10) that there should be an active, continuous program for monitoring a number of factors, including the numbers and specialty and geographic distribution of physicians, nurse practitioners, and physician assistants, and also for monitoring the perceptions of the patient population regarding the adequacy and availability of primary care services. To expand and improve the knowledge base used in making decisions in primary care manpower policy, the committee finds (Recommendation #11) that an increased emphasis should be given to health services research in primary care manpower. Such research could be especially helpful in determining primary care manpower needs. It could also reveal why physicians choose to seek training and continue to practice in primary care or other specialties.

Chapter 5: Education for Primary Health Care Practice

Primary care education policy should assure both an adequate supply of primary care practitioners and levels of competency suitable for the task to be performed. At this time, major educational issues include percentage goals for primary care residencies, public support of primary care residency programs, the nature of primary care medical education and team training, and credentialing.

Although the committee did not find an adequate data base for establishing a percentage goal for residency programs in primary care disciplines, it is inclined to believe that most physicians should be primary care practitioners, because primary care includes the management of the great majority of problems presented by patients. Therefore (Recommendation #12), the committee recommends a substantial increase in the national goal for the percent of first-year residents in primary care fields. Most committee members believe that perhaps the goal should be in the range of 60 to 70 percent while the current shortage exists.

To develop graduate medical education in primary care disciplines, training facilities must be designed and faculties compensated. In the committee's view, government financial incentives are preferable to public action requiring that medical schools contribute prescribed portions of their resources to primary care training programs. The committee recommends (Recommendation #13) that federal and state governments should continue to promote primary care partly by using financial incentives for the creation and support of primary care residency programs.

The nature of medical education in general inhibits the development of primary care. A broad, simultaneous set of actions is recommended to assure an atmosphere better suited to primary care development. These actions include the following:

(Recommendation #14) It is desirable that all medical schools direct or have a major affiliation with at least one primary care residency

program in which residents have responsibility under faculty supervision for the provision of accountable, accessible, comprehensive, continual, and coordinated care. A majority of the committee asserts that qualified medical school graduates should be able to receive graduate training in primary care in programs affiliated with their schools.

(Recommendation #15) In selecting among applicants for admission, medical schools should give weight to likely indicators of primary care career selection. Although the data and evidence are incomplete, such indicators now being investigated include an affinity for personal service, interpersonal skills, ability to function as part of a team, and performance in behavioral and social sciences. Continued special attention should be given to admission of minority students.

(Recommendation #16) Undergraduate medical education should provide students with a knowledge of epidemiology and aspects of behavioral and social sciences relevant to patient care. Medical students should be presented with an array of course material helpful to understanding and communicating with patients. This may require new courses or the integration of new material into existing courses and clinical training.

(Recommendation #17) Medical schools should provide all students with some clinical experience in a primary care setting. This experience might be obtained in academic medical centers, in nearby clinics or offices under faculty supervision, or under preceptorships. Primary care is a vital feature of medical education because primary care, as defined by the committee, is the level of care at which the great majority of health problems is managed. Experience in primary care clinical settings can provide medical students with role models useful for leading the students into primary care careers.

(Recommendation #18) Medical schools and primary care training programs should teach a team approach to the delivery of primary care. The committee believes that primary care is best taught in a setting that offers patients combined professional skills and access to such services as mental health care, eye care, social support, allied health services, and efficient communication among different types of professionals.

In proposing credentialing policies, the committee is interested in assuring opportunity for innovation as well as promoting quality of care. (Recommendation #19) Amendments to state licensing laws should authorize, through regulations, nurse practitioners and physician assistants to provide medical services, including making medical diagnoses and prescribing drugs when appropriate. Nurse practitioners and physician assistants in general should be required to perform the range of services they provide as skillfully as physicians, but they should not provide medical services without physician supervision. There are various opinions about the degree of physician supervision required.

Also on credentialing, the committee would promote development by the nursing profession of more uniform standards for nurse practitioner programs. The committee believes (Recommendation #20) that the nursing profession should continue to have accreditation responsibility for nurse practitioner education programs and should establish requirements for nurse practitioner education and training, in collaboration with physicians and other health professionals.

Chapter 6: Conclusions: The Schedule of Implementation

The final chapter of the report emphasizes the importance of coordinating all aspects of primary care manpower policy. Chapter 6 also presents a schedule of implementation, suggesting prerequisites, time frames, and responsible groups for each recommendation of the report.

STAFF PAPERS

The following papers were prepared by staff members as part of the study effort.*

Resource papers: These papers are comprehensive surveys of the literature on various issues as they relate to primary care manpower. They represent the state of the art on these issues.

LICENSURE OF PRIMARY CARE PRACTITIONERS. A discussion of the issues and current practices in public credentialing of physicians, nurses, and physician assistants. Strengths and weaknesses are suggested for various credentialing proposals.

CONSUMER ACCEPTANCE OF NURSE PRACTITIONERS AND PHYSICIAN ASSISTANTS. A report on studies of patients' attitudes and behavior in response to care provided by these two new professional groups.

PHYSICIAN ACCEPTANCE OF NURSE PRACTITIONERS AND PHYSICIAN ASSISTANTS. An analysis of studies of physician attitudes and other employment considerations involving use of nurse practitioners and physician assistants. Physicians' attitudes before and after working with the new health professionals are contrasted.

LEGAL LIABILITY OF PRIMARY CARE MANPOWER. A review of malpractice and other legal concerns affecting the use of nurse practitioners and physician assistants. The apparent magnitude of legal risks is depicted.

*A limited number of copies of each resource paper is available on request from the Institute of Medicine, Office of Communications, at the address appearing on the back of the title page.

Background information: This information was prepared to assist the committee in its deliberations. These papers are not intended to be comprehensive or for general use.

DEFINITIONS OF PRIMARY CARE. An analysis of the content of 33 primary care definitions in use in the United States and five other definitions. The usage of such terms as 'accessibility,' 'comprehensiveness,' and 'continuity' is described.

PUBLIC PAYMENT FOR PRIMARY CARE SERVICES. A brief discussion of the issues in publicly reimbursing primary care physicians, nurse practitioners, and physician assistants. The issues focus on the effects of present and possible alternative reimbursement mechanisms on physician geographic distribution, physician specialty distribution, and utilization of nurse practitioners and physician assistants.

EDUCATION OF PRIMARY CARE PRACTITIONERS. A discussion of the education and training of primary care physicians, nurse practitioners, and physician assistants. Topics covered include numbers and types of students, costs, curricula, and federal support.

ROLES OF OTHER PROFESSIONS IN PRIMARY CARE. A description of the contributions made to primary care training and delivery by selected professional groups, such as dietitians, social workers and physical therapists. The paper presents conclusions of the committee.

Selected data sources: These papers contain a description of the data sources considered and used by the committee. They were not prepared for general use.

An EVALUATION OF DATA SOURCES ON THE CONTENT OF MEDICAL PRACTICE. An assessment of the major studies of medical practice in the United States. The paper concludes that the National Ambulatory Medical Care Survey is now the most useful study for examining primary care physician practice.

DATA ON THE SUPPLY AND DISTRIBUTION OF PRIMARY CARE PHYSICIANS. A report on available data describing physician specialty distribution and the geographic placement of physicians in primary care disciplines. Particular attention is paid to the geographic distribution of family physicians, general practitioners, internists, and pediatricians. The state of the art in the collection and analysis of physician distribution data is briefly described.

A COMPILATION OF DATA ON THE CONTENT OF PRIMARY CARE PRACTICE. A review of available information on physician activity, patient characteristics, and patient visits provided by family physicians, general practitioners, internists, pediatricians, and obstetricians and gynecologists. Information from the National Ambulatory Medical Care Survey, the National Diagnostic and Therapeutic Index, and other data sources are analyzed.

DATA ON THE ROLES OF THE PHYSICIAN ASSISTANT AND NURSE PRACTITIONER. A review of research on roles of the new health professionals. Nurse practitioner and physician assistant productivity data also are examined.

References

Chapter 1

1. Citizens' Commission on Graduate Medical Education, Report, The Graduate Education of Physicians, by John S. Millis, Chairman (Chicago: American Medical Association, 1966); Ad Hoc Committee on Education for Family Practice of the Council on Medical Education of the American Medical Association, Report, Meeting the Challenge of Family Practice, by William R. Willard, Chairman (Chicago: American Medical Association, 1966); Committee on Medical Schools and the Association of American Medical Colleges in Relation to Training for Family Practice, Report, "Planning for Comprehensive and Continuing Care of Patients Through Education," by Edmund D. Pellegrino, Chairman, Journal of Medical Education 43 (1968): 751-9.

2. Lowell T. Coggeshall, Report, Planning for Medical Progress Through Education (Evanston, Illinois: Association of American Medical Colleges, 1965).

3. See Chapter 4.

4. Particularly significant works on primary care include Joel J. Alpert and Evan Charney, The Education of Physicians for Primary Care, DHEW Publication No. (HRA) 74-3113 (1973); Spyros Andreopoulos, ed., Primary Care: Where Medicine Fails (New York: John Wiley and Sons, 1974); Association of American Medical Colleges, "Proceedings of the Institute of Primary Care" (Washington, D.C.: 1974); and Philip R. Lee, Lauren LeRoy, Janice Stalcup, and John Beck, Primary Care in a Specialized World (Cambridge, Mass.: Ballinger Publishing Co., 1976).

5. Institute of Medicine, "Primary Care in Medicine: A Definition" (Washington, D.C.: National Academy of Sciences, 1977).

6. See Chapters 2-5 and staff papers, "Education of Primary Care Practitioners," "Data on the Supply and Distribution of Primary Care Physicians," "A Compilation of Data on the Content of Primary Care Practice," "Data on the Roles of the Physician Assistant and Nurse Practitioner," and "Licensure of Primary Care Practitioners."

7. See Chapter 2.

8. Each organization or individual invited to the open meeting was asked to submit a paper suggesting references, areas of inquiry, and important policy considerations. Submitted papers were reviewed by the committee, which selected 18 of the papers for presentation at the meeting. In addition, all 73 of those who attended were afforded the opportunity to address the committee with brief statements or questions.

Chapter 2

PRIMARY HEALTH CARE DEFINED

The idea of primary care in health is well-known and widely supported, but there is considerable disagreement about the precise meaning of the term. In formulating a definition of primary care useful to practitioners and patients, and to educators and policy-makers, the committee examined dozens of definitions put forward by organizations and individuals. Several views on the meaning of primary care were presented at an open meeting held by the committee in January 1976 at the National Academy of Sciences in Washington, D.C. Thirty-eight definitions used by various individuals and groups were analyzed and compared. 1/ The committee found these views helpful to its own efforts to construct a definition of primary care and to develop criteria for determining whether primary care is being delivered.

One conclusion drawn from the definitional analysis and discussion was that primary care is distinguished from other levels of personal health services by the scope, character, and integration of the services provided. Personal health services exclude public, environmental, and occupational health programs. Primary care cannot sufficiently be defined by the location of care, by the provider's disciplinary training, or by the provision of a particular set of services. The scope, character, and integration of services therefore are the basis of the definition of primary care presented in this chapter.

Because services define primary care, good practitioners can be trained in any of a variety of disciplines. Many more primary care practitioners graduate from family medicine programs than from surgery programs. Nonetheless, it is possible for a graduate from either program to practice exemplary primary care. It is also possible for a family physician to provide care other than primary care.

Primary care may be furnished by a solo practitioner, a group practice clinic, or a health maintenance organization. Excellent primary care services can be delivered by a nonphysician, such as a family nurse practitioner with suitable backup. In most cases, the complete array of services cannot be offered by a single individual and should be provided by a team that might include physicians, nurses, physician assistants, social workers, technicians, administrators, secretaries, and others. In addition, important health services are provided by dentists, podiatrists, optometrists, pharmacists, and other health professionals. 2/

Primary care responsibility is exercised by physicians, nurse practitioners, and physician assistants. This report uses the term 'primary care practitioner' to refer to physicians, nurse practitioners, and physician assistants providing primary care as defined in this chapter. Similarly, the term 'primary care physician' refers in this report to a licensed doctor of medicine or osteopathy who provides primary care as defined, irrespective of the physician's specialty designation or training.

The attributes discussed below describe primary care as it should and could be practiced in the United States today. Primary care units that meet all criteria specified in this paper are not often found, but all primary care providers should attempt to achieve these standards. Professionals who train men and women for primary care should accustom their students to a practice environment that meets or exceeds these standards.

THE DEFINITION

The five attributes essential to the practice of good primary care are accessibility, comprehensiveness, coordination, continuity, and accountability.

ACCESSIBILITY OF SERVICES

Accessibility is especially important at the primary care level because primary care practitioners are the initial and most constant providers of health services. Patients must be able to reach the practitioner or a member of the team at all times. In addition, the physical location and the internal facilities of the primary care unit should be such that the patient can reach and use the provided services. The provider should be concerned that the cost of services and the way in which they are provided are acceptable to patients so that those who need care are not deterred from seeking it.

Accessibility refers to the responsibility of the provider team to assist the patient or the potential patient to overcome temporal, spatial, economic, and psychologic barriers to health care. Secondary to accessibility are availability, attainability, and acceptability. Availability refers to the temporal aspects of access--for example, the maintenance of around-the-clock coverage and reasonably fast response to requests for service. Attainability covers physical and economic aspects of access. Acceptability refers to psychologic and social aspects of access.

Services should be available 24 hours a day, seven day a week, although it is recognized that isolated practitioners, who may practice excellent primary care, cannot keep such a schedule. These practitioners usually have a coverage arrangement with a doctor in a neighboring town or a nearby emergency room. The arrangement is known to the patients and to the covering provider who routinely transmits patient information back to the practitioners. However, a practitioner who leaves town without ensuring that patients are informed of coverage arrangements, or even without arranging for coverage, is not practicing adequate primary care.

Similarly, a hospital that closes the doors to its general clinic at 5:00 p.m. and routes all later patients to the emergency room without additional instructions or arrangements is not practicing acceptable primary care. Such a clinic should have an off-hours call schedule so that a patient can contact his or her own practitioner or one who has immediate access to the patient's records. Less acceptable would be a system in which a member of the primary care practice unit is "on call" to the emergency room, responding when one of his or her patients arrives, and incorporating a report of all such visits into the office record. Some feel that primary care practitioners should care for their patients regardless of their ability to pay. Others feel that a primary care practitioner should always accept assignment under Medicare, and should always accept Medicaid patients. Under the current system of payment, the provider unit must maintain some control over the payment structure or face economic disaster. For this reason, these qualifications are not considered essential to this definition; however, the primary care provider should be concerned about the economic status of the patients, and should assist them whenever and however possible to overcome financial barriers.

COMPREHENSIVENESS OF SERVICES

Comprehensiveness refers to the willingness and ability of the primary care team to handle the great majority of the health problems arising in the population it serves.

A primary care practitioner may limit practice to an age group (pediatrics, internal medicine) or to one sex (obstetrics and gynecology). However, he or she

should handle most of the problems arising in the served population. For example, an obstetrician and gynecologist who refers patients elsewhere for general physical examinations, headaches, febrile illnesses, and other similar needs and problems is not practicing primary care. Primary care includes provision of such preventive services as blood pressure and weight measurement, in addition to pap smears and breast examinations. Most obstetricians and gynecologists neither practice nor desire to practice primary care as defined in this paper, although they could do so if they wished. Similarly, the internist or pediatrician who has a subspecialty interest should provide total care for the majority of patients' complaints and be willing to care for patients in the appropriate setting--whether the hospital, chronic care unit, or the home.

Comprehensiveness of services is an attribute that distinguishes the primary care practitioner from the secondary care practitioner or referral specialist. The latter chooses not to provide common medical services in order to concentrate on more specialized services. The primary care practitioner may have an area of special medical interest, such as heart disease or diabetes mellitus, but does not limit services to concentrate on this interest.

Many professional groups provide services that are an important part of the spectrum of primary care services. Pharmacists provide valuable advice and services to patients. Optometrists, podiatrists, dentists, and many other health professionals provide services that are a part of good health and medical care. However, these professionals generally do not provide the range of services characteristic of primary care.

Nurse practitioners, physician assistants, and other nonphysicians working as part of a primary care unit can provide most, but not all, primary care services. In most states, they would be violating medical practice acts if they practiced independently. They are valuable members of the primary care team, not only because of their ability to increase the number of patients seen but also because they can add to the physician's usual range of services. Social workers also expand the scope of services.

COORDINATION OF SERVICES

The primary care practitioner coordinates the patient's care, including that care provided by other specialists. The practitioner is the ombudsman for patient contacts with other providers, referring patients to appropriate specialists, providing pertinent information to and seeking opinions from these specialists, and explaining diagnosis and treatment to patients.

In addition, the primary care practitioner coordinates the patient's plan of care with his or her financial capabilities and personal desires. This implies an understanding of the patient's family and occupational environment, financial circumstances, preferences, and way of life.

CONTINUITY OF SERVICES

Continuity is the fourth essential attribute of primary care, and it cannot exist without the first three.

Inaccessibility of a practitioner encourages patients to use emergency rooms or other providers of services, destroying continuity. Referral of patients to others for services that should be within the scope of the primary care unit promotes discontinuous and fragmented care. Failure of the primary care practitioner to seek results from referral sources and to incorporate this information into the patient's record or failure to accommodate and adapt to the patient's preferences also destroy continuity.

The primary care provider should be more aggressive in seeking continuity than is commonly the case today. An instruction to return in one year for an examination should be followed by a reminder card or telephone call before the scheduled visit, and a missed appointment should evoke some effort to determine the reason and to reschedule for a later time.

In today's practice environment, the patient's record is of increasing importance in achieving continuity of services. The solo practitioner of the past may have been able to recall the most relevant facts about his or her patients. However, in a modern practice, quantitative data from tests and coverage shared among partners place more importance on a readily accessible record in which significant problems are highlighted and the treatment plan is outlined clearly.

28-B

ACCOUNTABILITY

Accountability is an attribute not unique to primary care, but essential to it. The primary care unit should review regularly both the process and the outcomes of its care. Reviews should lead to education activities to correct deficiencies and expand skills and services. All members of the staff should be included.

In addition, the professional staff of the primary care unit should establish a policy of providing appropriate information to the patient about risks and possible undesirable effects of treatment, and about unexpected or undesirable outcomes, so that the patient can make informed decisions about proposed care.

Also, the physician has an obligation to maintain appropriate financial accountability, including adequate professional liability coverage.

A PRIMARY CARE CHECKLIST

To introduce as much specificity as possible into this definition of primary care, a list of activities or indicators has been prepared. They would be useful evidence of the achievement or presence of these attributes in a given practice unit.

These indicators are not of equal importance or value. They have been placed in order by separating those considered "essential" from those considered "important." An essential indicator must be present for the unit to be considered as having achieved the attribute under which the indicator is listed.

This checklist could have many uses. Among the most important is its use as a self-evaluative instrument for a clinic or practice unit. The checklist could also be used by an outside agency as one measure in determining whether or not a teaching clinic provides a true primary care experience for its trainees. There are other indicators that might have equal or greater value, and others may wish to validate these indicators with more precision or to use another format.

In the list below, those items considered essential are designated by the enclosed box in the right hand column, while those that are important, but not essential, are designated by a dash.

A. ARE SERVICES ACCESSIBLE?

1. Are Services Available to Patients?

a. Is access to primary care services provided 24 hours a day, seven days a week? ____

b. Is there an opportunity for a patient to schedule an appointment? ____

c. Are scheduled office hours compatible with the work and way of life of most of the patients? ____

d. Can most (90 percent) medically urgent cases be seen within one hour? ____

e. Can most patients (90 percent) with acute but not urgent problems be seen within one day? ____

f. Can most (90 percent) appropriate requests for routine appointments, such as preventive exams, be met within one week? ____

2. Are Services Convenient to Patients?

a. Is the practice unit conveniently located, so that most patients can reach it by public or private transportation? ____

b. Is the practice unit so designed that handicapped or elderly patients are not inconvenienced? ____

c. Does the practice unit accept patients who have

a means of payment, regardless of source (Medicare, Medicaid)? ___

3. Are Services Acceptable to Patients?

   a. Is the waiting time for most (90 percent) of the scheduled appointments less than one half hour? ☐

   b. If a substantial minority (25 percent) of patients have a special language or other communication barrier, does the office staff include people who can deal with this problem? ☐

   c. Are waiting accommodations comfortable and uncrowded? ___

   d. Does the practice staff consistently demonstrate an interest in and appreciation of the culture, background, socioeconomic status, work environment, and living circumstances of patients? ☐

   e. Is simple, understandable information provided to patients about fees, billing procedures, scheduling of appointments, contacting the unit after hours, and grievance procedures? ☐

   f. Are patients encouraged to ask questions about their illness and their care, to discuss their health problems freely, and to review their records, if desired? ___

   g. Does the practice unit accept patients without regard to race, religion, or ethnic origin? ☐

B. ARE SERVICES COMPREHENSIVE?

1. Within the patient population served, and realizing that this might be restricted to a certain age (pediatrics) or sex (obstetrics and gynecology), is the practice unit willing to handle, without referral, the great majority (over 90 percent) of the problems arising in this population (for example, general complaints such as fever or fatigue, minor trauma, sore throat, cough, and chest pain)?

2. Are appropriate primary and secondary preventive measures used for those people at risk (for example: immunizations for tetanus, polio; early detection of hypertension; control of risk factors for coronary disease)?

3. Are the practitioners in the unit willing, if appropriate, to admit and care for patients in hospitals?

4. Are the practitioners in the unit willing to admit and care for patients in nursing homes or convalescent homes?

5. Are the practitioners in the unit willing, if appropriate, to visit the patient at home?

6. Are patients encouraged and assisted in providing for their own care and participating as allies in their own health care plan (for example, through instruction in nutrition, diet, exercise, accident prevention, family planning, and adolescent problems)?

7. Do the practitioners in the unit provide support to those agencies and organizations promoting community health (for example: health education programs for the public; disease detection programs; school health and sports medicine programs; emergency care training)? ___

C. ARE SERVICES COORDINATED?

1. Do the practitioners in the unit furnish pertinent information to other providers serving the patient, actively seek relevant feedback from consultants and other providers, and serve as the patient's ombudsmen in contacts with other providers? ___/___

2. Is a summary or abstract of the patient's record provided to other physicians when needed? ___/___

3. Do the practitioners in the unit develop a treatment plan with the patient that reflects consideration of the patient's understanding? Do the practitioners use a variety of tactics to ensure that the patient will cooperate in the treatment? Does the plan of treatment reflect the patient's physical, emotional, and financial ability to carry it out? ___/___

4. Is another source of care recommended when a patient moves to another geographic area? ___

D. ARE SERVICES CONTINUOUS?

1. Can a patient who desires to do so make subsequent appointments with the same provider? ___/___

2. Are complete records maintained in a form that is easily retrievable and accessible? ___/___

3. Are relevant items or problems in the patient's record highlighted, regularly reviewed, and used in planning care? ____

4. Is each patient reminded of his or her next appointment? ____

E. IS THE UNIT ACCOUNTABLE?

1. Do the practitioners in the unit assume responsibility for alerting proper authorities if a patient's problem reveals a health hazard that may affect others in the community (for example: discovery of exposure to toxic chemicals in an industrial plant; discovery of a communicable disease)? ____

2. Is there a patient-disease and age-sex registry maintained that can provide the basis of a practice audit? ____

3. Is there a system for regular review of the quality of the process of medical care (for example, reviews for completeness of therapeutic programs and follow-up of acute illnesses)? ____

4. Is there a system for regular assessment of the outcomes of the care offered (for example: review of outcome of treatment of specific illnesses; review of level of satisfaction of patients with the services provided; review of compliance with recommendations)? ____

5. Is there evidence that the unit regularly assesses the capability of the staff and provides opportunity for continuing education? ____

6. Are patients appropriately informed about the nature of their condition, the benefits and risks of available treatments, and the expected outcome?

Are they provided the opportunity to ask questions and discuss their medical record? ____

7. If unexpected or undesired outcomes occur, are they made known and adequately explained to patients, and is a method established for responding to any expressed dissatisfaction (such as conferences, counseling, arbitration, adjustment of billing, or referral)? ____

8. Does the provider maintain financial accountability by keeping accurate records and having adequate professional liability coverage? ____

REFERENCES

Chapter 2

1. See staff paper, "Definitions of Primary Care."
2. See staff paper, "Roles of Other Professions in Primary Care."

Chapter 3

PRACTICE ARRANGEMENTS FOR PRIMARY HEALTH CARE

Primary care, as defined in Chapter 2 of this report, is delivered by various categories of health professionals 1/ in a variety of practice arrangements or units ranging from solo to large medical group practices. 2/ The suitability of some prototypes of practice arrangements and their appropriateness for the delivery of primary care are examined in this chapter, following a brief description of the health conditions encountered in primary care practice units, and the physicians, physician assistants, and nurse practitioners providing primary care today.

CONTENT OF PRIMARY CARE PRACTICE

Currently, primary care is being delivered in physicians' offices, hospital emergency rooms, hospital outpatient departments, clinics, neighborhood health centers, and other provider units. 3/ Although hospital settings are one site for rendering primary care, 4/ most is still delivered in physicians' offices. 5/ Of the more than one billion visits made to physicians annually in the United States, approximately 60 percent are made to office-based physicians. 6/ With available data, visits to office-based physicians may be described either from the patient's perspective (presenting problems) or from the physician's perspective (diagnoses).

Although patients visit office-based physicians for many reasons, few types of presenting problems account for a large proportion of the visits. The five most frequent problems presented by patients account for approximately 19 percent of the visits, and only 21 different presenting problems account for about 50 percent of the visits. 7/ However, a single complaint can be due to many different causes. Abdominal pain, for example, can be symptomatic of several different physical dysfunctions, psychological stress, or both.

The description of primary care obtained from an analysis of physicians' diagnoses is similar to the patients' characterization. Although 158 diagnoses assigned by physicians account for 90 percent of the visits, only ten diagnoses account for almost 33 percent of the visits. These ten diagnoses, in order of their frequency, are medical and special examinations, medical and surgical after care, essential benign hypertension, prenatal care, acute upper respiratory infection

in an unspecified site, neuroses, chronic ischemic heart disease, otitis media (inflammation of the middle ear), diabetes mellitus, and eczema and dermatitis. 8

Available data are not helpful in quantifying some important aspects of primary care such as prevention, health education, and counseling services. 9/ For example, some preventive services, such as well baby and child care, are contained in the category of medical and special examinations. Other preventive services such as inoculations, vaccinations, and prenatal care are recorded separately. They account for 4.8 percent of the visits to office-based physicians. 10/ Little direct reliable information is available about health education. Physicians report that in 16.6 percent of patients' visits, medical counseling and psychotherapy or therapeutic listening were provided as the major treatment. 11/

The data presented above may not, in the committee's opinion, provide a complete picture of the nature of primary care. Certain complex characteristics of primary care, while difficult to quantify, are unique and integral to its practice. For example, primary care units continuously deal with an array of vaguely defined presenting problems which require identification and resolution. In addition, although the practice unit, according to the definition, can manage 90 percent of these problems, the practice unit must recognize its limitations and refer patients whose problems cannot be managed for secondary and tertiary consultations.

PHYSICIANS PROVIDING PRIMARY CARE

As defined in Chapter 2, primary care is based on the scope, character, and integration of the services provided. Although many types of health professionals provide primary care, it is generally agreed that the physician has a central role. Federal legislation identifies family medicine, general internal medicine, and general pediatrics as primary care specialties, 12/ whereas the American Medical Association also includes obstetrics and gynecology.

Recent studies suggest that other medical specialists spend considerable time in delivering primary care. 13/ A study of cardiologists revealed that 21.3 percent of the average cardiologists' patient contact was for care outside his or her own field. 14/ Some 70 percent of the subspecialists trained at the Mayo Clinic in internal medicine spend almost half their time in primary care. 15/

Data indicate that 69 percent of all visits to office-based physicians are to general and family practitioners, internists, pediatricians, and obstetricians and gynecologists. General and family physicians receive the largest percentage (40 percent) of all patient office visits, 16/ although they represent only 16 percent of practicing physicians. 17/

Table 1 shows the ten diagnoses made most often by physicians in general and in family practice, internal medicine, pediatrics, and obstetrics and gynecology. 18/ The general and the family physician and the internist provide care for a broad range of problems. However, the internist places a greater emphasis on diseases of an adult or aging population. In contrast, the practices of both pediatricians and obstetricians and gynecologists include a more limited range of diagnoses. More than 31 percent of obstetricians and gynecologists' diagnoses are for prenatal care and almost 30 percent of pediatricians' diagnoses are for medical or special examinations that include well baby and child care.

Other dimensions of primary care are the seriousness of the condition, the acute or chronic nature of the condition, and the physician's disposition of the visit. 19/ A small percentage of the visits to primary care physicians are for serious conditions. The largest percentage of visits is made to the internists. 20/ Of all conditions seen by physicians the following percentages are chronic: internists, 57 percent; general and family physicians, 35 percent; obstetricians and gynecologists, 15 percent; pediatricians, 10 percent. 21/ Among the physicians discussed in the preceding paragraph, obstetricians and gynecologists most often request return visits while pediatricians make the greatest use of telephone follow-ups. Internists are most likely to refer patients to other physicians and facilities, and obstetricians and gynecologists hospitalize patients most often. 22/

PHYSICIAN ASSISTANTS AND NURSE PRACTITIONERS PROVIDING PRIMARY CARE

In the last decade, members of two new professional categories, physician assistants and nurse practitioners, grouped together under the name of new health practitioners, have become providers of primary care. By 1976, there were an estimated 5,800 graduates of DHEW funded nurse practitioner programs, and 4,600 graduates of DHEW funded physician assistant programs. 23/ There are differences in programs, but students in these training programs are being trained to provide many of the services delivered by physicians.

Most nurse practitioners and physician assistants are employed in primary care practice units. Of the nurse practitioners employed, 69 percent are providing primary care. Fifty-five percent of all nurse practitioners work in solo, group, and clinic practice. 24/ Of the 71 percent of physician assistants working with primary care physicians, more than half are practicing with general and family physicians. More than half are employed in solo, group, and clinic practice. 25/

(See Chapter 4 for a discussion of the supply and distribution of physician assistants and nurse practitioners and Chapter 5 for information about their education and credentialing.)

TABLE 1. THE PERCENTAGE DISTRIBUTION OF THE TEN MOST COMMON PRINCIPAL DIAGNOSES MADE BY FOUR MEDICAL SPECIALTIES IN 1975

Diagnosis	Visits to general and family physicians	Visits to internists	Visits to pediatricians	Visits to OBs/GYNs
Medical or special examination	6.3	4.1	26.7	13.4
Prenatal care	2.3			31.4
Essential benign hypertension	5.9	9.3		
Acute upper respiratory infection	3.6	2.6	6.3	
Medical and surgical aftercare	2.4	1.8	1.8	5.4
Chronic ischemic heart disease	2.2	7.9		
Diabetes mellitus	2.5	4.5		
Acute pharyngitis	2.2		3.9	
Other eczema & dermatitis	2.1		3.4	
Otitis media			8.1	
Bronchitis, unqualified			3.7	
Acute tonsillitis			3.2	
Neuroses		2.3		
Observation without need for medication				4.4
Influenza, unqualified	2.1			
Osteoarthritis		2.3		
Hay fever			2.1	
Inoculations & vaccinations			3.6	
Menopausal symptoms				1.8
Disorders of menstruation				4.1
Symptomatic heart disease		2.0		
Postpartum observation				3.4
Infectious disease of uterus, vagina and vulva				3.3
Rheumatoid arthritis and allied conditions		1.6		
Other person without complaint or illness				2.1
Moniliasis				1.8
Total percent of all visits	31.7	38.4	62.8	71.1

Source: The National Ambulatory Medical Care Survey, 1976, Unpublished Data, National Center for Health Statistics, DHEW, Rockville, Maryland.

Note: Diagnoses were made in visits to office-based physicians. Diagnoses were coded and classified according to the Eighth Revision of the International Classification of Diseases Adapted for Use in the United States.

PRACTICE ARRANGEMENTS

Although the traditional practice unit or arrangement for the delivery of primary care has been the solo practitioner with a small office staff, an important trend has been the growth of group practices, defined as "three or more physicians formally organized to provide medical care." 26/ Approximately 30 percent of the internists, pediatricians, and obstetricians and gynecologists in patient care in 1975 were in group practice, as compared to only 18 percent of general and family physicians. 27/ Moreover, three-quarters of internists and two-thirds of the pediatricians in groups were in multispecialty groups. In contrast, obstetricians and gynecologists were almost evenly distributed between single specialty and multispecialty groups. A slightly higher percentage of general and family physician group practice physicians were in multispecialty groups than were in single specialty groups. 28/

Evidence on the relationship of the type of practice arrangement and the nature and utilization of primary care services is limited. Although there is documented evidence of decreased hospital use by members of prepaid groups, evidence on the effects of prepayment on the use of outpatient services and preventive services is inconclusive. 29/

Options and Recommendations

In the committee's judgment, many different practice units are capable of providing good primary care. Such units can be identified through the dissemination and application of the checklist provided in Chapter 2. The committee evaluated four such practice arrangements as prototypes for the future provision of primary care based on the data and information presented in this chapter and on the attributes essential for the provision of exemplary primary care as defined in Chapter 2. The committee compared the strengths and weaknesses of each to see if one should be employed in preference to others. The prototypes are:

- the family practice unit - composed of one or more family physicians,
- the multispecialty unit - composed of internists, pediatricians, and perhaps other specialists,
- the family practice team - composed of one or more family physicians, and one or more new health practitioners, and
- the multispecialty team - a unit composed of internists, pediatricians, and perhaps other specialists and new health practitioners.

Family practice unit. The data on the practice of primary care by general and family physicians indicate they currently are the principal providers of primary care in an office setting. 30/ They receive the largest percentage of patient visits for primary care problems and care for a broad range of conditions without the need for referral. 31/

Moreover, the committee believes that many patients favor a physician who serves all the family members. In providing services for an entire family, a family physician may become more aware of the genetic and environmental factors affecting each family member and use this knowledge in the patient's care. There are, nevertheless, other patients who prefer less personal involvement on the part of their physician.

In the committee's opinion, the family physician provides quality primary care that is less dependent on technology and hospital facilities than care rendered by other physicians. The family practice unit has the potential for providing comprehensive, continuous, and integrated care. However, the unit may need to refer the more serious medical problems that could be managed better by practitioners in multispecialty units.

Multispecialty unit. The multispecialty unit that includes internists, pediatricians, and perhaps other medical specialists such as obstetricians and gynecologists can achieve continuity and comprehensiveness of care. The specialty mix and hospital training of the units' members may enable them to care for a large percentage of the patients' more serious problems without referral. In the experience of committee members, however, some multispecialty groups tend to refer the less serious problems such as simple fractures. These latter conditions occur more frequently than serious problems. Thus, these referrals are more disruptive of the comprehensiveness and continuity of care than services provided for serious illnesses.

In the committee's view, many people perceive internists, pediatricians, and other specialists as having had the highest level of medical training. They therefore favor receiving primary care from such physicians. This type of primary care may be costly without being of higher quality than care delivered by other prototypes.

Family practice team and the multispecialty team. In the committee's opinion, the employment and full utilization of new health practitioners in practice units augments the ability of these units to provide primary care.

The physician assistant and nurse practitioner have been shown to increase the productivity of practice units. They can perform many of the technical procedures in the practice and can manage follow-up for patients with chronic illnesses according to a regimen designed by the primary care physician. With their employment the physician can concentrate on the patient problems which require his or her unique skills. Nurse practitioners and physician assistants deliver quality care which is accepted by patients and physicians. In addition, some new health practitioners provide preventive services, health education, and patient counseling, thereby extending the range of primary care services usually delivered. Their employment may add to the accessibility of primary care services by increasing the number of hours a practice unit can be contacted by patients 32/ and by decreasing the patients'

waiting time. In the committee's opinion, the family practice team has a unique role in the delivery of primary care in underserved areas, especially rural ones.

A possible disadvantage of both units is the potential for a diminution in the continuity of primary care when the patient sees more than one provider. However, the committee's evaluation of the evidence suggests that continuity is increased by the presence of nurse practitioners and physician assistants. 33/

In the committee's judgment, there is no conclusive evidence to indicate the superiority of one of these prototypes or any other practice arrangement. For the present, therefore, the committee recommends that (Recommendation #1) because no practice arrangement has been found consistently superior to any other, primary care as defined in this report should continue to be delivered by various combinations of health care providers in a variety of practice arrangements. Pluralism is a useful feature of the delivery of primary care services and, to the extent possible, should be preserved in the selection of practice units for primary care. The competition engendered by choices of primary care practice units may prove stimulating to innovation in the delivery of primary care and to perfecting current modes of delivery.

In the committee's view, the requirements and preferences of the patient, the community, and the practitioner probably determine the best type of primary care practice unit for that community. The population base and economic status of the community and the preferences of the primary care practitioners are particularly important.

Models of practice units for the future delivery of primary care are not necessarily limited to those discussed. All practice units that satisfy attributes of good primary care should be encouraged. The committee believes that it is in the public interest to develop diverse approaches and not to foster any one model at the expense of another.

REFERENCES

Chapter 3

1. This chapter concentrates on the care provided by physicians, physician assistants and nurse practitioners. The contribution to primary care by other professionals is surveyed in the staff paper, "The Roles of Other Professions in Primary Care."

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5. Several hundred studies on the content of medical practice have appeared since 1930. Of the 65 reviewed for this report only three provide information on the content of practice of medical disciplines from a national sampling. The committee found the National Ambulatory Care Survey, which collects information on ambulatory care provided by office-based physicians, contains the most comprehensive, reliable, and recent information and bases a large part of the chapter on this source. In doing so, the committee recognizes that ambulatory visits and primary care visits are not equivalent, but thinks the errors and misinterpretations introduced by such an assumption are not large enough to prejudice policy decisions. (For a further discussion, see staff papers, "A Compilation of Data on the Content of Primary Care Practice" and "An Evaluation of Data Sources on the Content of Medical Practice.")

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8. Ibid., p. 8.

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16. U.S. Department of Health, Education, and Welfare, unpublished tabulations from the National Ambulatory Medical Care Survey, 1975.

17. See staff paper, "Data on the Supply and Distribution of Primary Care Physicians."

18. U.S. Department of Health, Education, and Welfare, unpublished tabulations from the National Ambulatory Medical Care Survey, 1975.

19. For a further discussion of these and other dimensions of primary care, see staff paper "A Compilation of Data on the Content of Primary Care Practice."

20. In the National Ambulatory Medical Care Survey, patient visits are described as very serious, serious, slightly serious, or not serious, depending on the extent of the impairment that might result if no care is provided. Unpublished data from the 1974 National Ambulatory Medical Care Survey show that 17 percent of patient visits to general and family physicians are for very serious and serious problems, 28.5 percent of patient visits to internists are for very serious and serious problems, 7.7 percent of all visits to obstetricians and gynecologists are for very serious and serious problems, and 10 percent of all visits to pediatricians are for very serious and serious serious problems.

21. Unpublished data from 1975 National Ambulatory Medical Care Survey. In this survey, acute conditions are defined as illnesses whose length is very brief, and chronic conditions are defined as illnesses for which the physician provides care over an extended period of time for the same diagnosis.

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Chapter 4

THE SUPPLY AND DISTRIBUTION OF PRIMARY HEALTH CARE PRACTITIONERS

This chapter discusses the supply of physicians, physician assistants, and nurse practitioners and considers their specialty and geographic distribution. Although supply and distribution issues are related, they are examined separately because they require separate policy considerations.

THE SUPPLY OF PHYSICIANS

The supply of physicians in the United States is increasing at a significant rate. In 1975 there were 340,280 professionally active physicians, a 30 percent increase from 1968. 1/ In addition, in 1976 there were 13,982 practicing doctors of osteopathy. 2/ If current enrollment trends continue, the number of active physicians will increase by over 60 percent by the year 1990 to 559,800, 3/ creating a physician to population ratio in 1990 of 228 per 100,000 population compared to 156.8 per 100,000 in 1975. 4/

As dramatic as this projected increase in physicians appears to be, it may not indicate an equivalent increase in physicians' services. In particular, factors such as physician productivity and work effort, or numbers of hours worked, critically affect the total supply of physicians' services. Physician productivity may be measured by the number of personal health services of different types produced per unit of time. Some of the factors affecting the productivity of physicians are the type and size of physician practice, the employment of different types of ancillary health manpower, and quantity and quality of medical equipment. Empirical research to date suggests that use of physician assistants and nurse practitioners and allied health manpower increases the productivity of a physician practice. 5/ Similar results have also been obtained for the use of some types of medical equipment. 6/ Although the evidence is less clear, group practice, especially single specialty groups, shows some signs of having increased productivity. 7/

The physician's work effort is another important factor in determining the supply of physician services. Office based physicians averaged 51.5 hours per week in 1973. However, there is considerable variation among physicians in different areas of the country, practice arrangements, and medical specialties. 8/ Other factors, such as physicians' income,

asset holdings, and manner in which they are reimbursed also affect hours worked. There is some evidence that at high levels of income physicians opt for more leisure time instead of greater income. 9/

Options and Recommendations

The committee considered three options related to the aggregate supply of physicians: increasing, decreasing, or maintaining the number of entrants to medical schools at the current annual level.

The committee does not believe that increasing the number of medical school entrants is a reasonable policy given the available evidence at this time. Some researchers believe we have or soon will have an excess supply of physicians. 10/ Increasing the aggregate supply of physicians may not increase the available supply of primary care services. Furthermore, increasing the aggregate supply of physicians may add significantly to health expenditures. Given the market power of physicians as independent professionals, they may be able to influence the use of their services. Some researchers suggest that each additional physician increases health care expenditures by $250,000 yearly. 11/

There is little direct evidence on how the total supply of physicians affects the supply of primary care physicians. It is reasonable to expect, however, that decreasing the number of entrants to medical school will reduce the pool of physicians available to enter primary care disciplines. In addition, reduction would be disruptive of the medical educational system. Closing recently started medical schools would be impractical; reducing the number of students accepted into existing schools could harm the finances of such schools.

The committee recommends that (Recommendation #2) for the present, the number of entrants to medical school should remain at the current annual level. This recommendation is made with the proviso that continuous and vigorous efforts be made to monitor and evaluate the aggregate supply of physicians.

SUPPLY OF NURSE PRACTITIONERS AND PHYSICIAN ASSISTANTS

In the face of an expanded physician supply, the future of nurse practitioners and physician assistants appears somewhat uncertain. Originally, nurse practitioners and physician assistants were seen as a way of speedily increasing the supply of personal health services. In less than two years, training programs could turn a registered nurse or an individual with some health care experience, such as an ex-military corpsman, into a provider of quality medical services. 12/ More recently, new health practitioners have been considered as providers of care different in scope or nature from care provided by physicians, especially regarding health education and patient counseling.

Although differences exist between training of nurse practitioners and physician assistants, both groups are educated and trained to perform many of the tasks traditionally performed by physicians. As defined in this report, nurse practitioners are formally trained in academic programs, of which about one-third are one-year programs conferring master's degrees. Other formal nurse practitioner programs award certificates and generally take from a few months to a year. 13/ Formal physician assistant programs are usually university based and require about two years. The first half of the physician assistant program is spent on classroom instruction in the basic sciences and the second half is spent in clinical application or preceptorships. 14/

Formal nurse practitioner and physician assistant programs began to receive direct federal support in 1971 and continue to receive support under authority of the Nurse Training Act of 1975 and the Health Professions Educational Assistance Act of 1976. 15/ Given the current numbers of physician assistants and nurse practitioners, and current levels of support and training slots, in 1990 the projected number of nurse practitioners will be 23,000, and the number of physician assistants will be 18,520. 16/ In 1990 there would be slightly less than one physician assistant or nurse practitioner for every fourteen actively practicing physicians.

Options and Recommendations

The committee considered three policy options for the training of physician assistants and nurse practitioners: increasing, decreasing, or maintaining the numbers trained at the current annual level.

The committee rejected the option of increasing the number of physician assistants and nurse practitioners being trained, partly because the expected increase in the supply of physicians might limit the employment of the new health practitioners. Although the committee acknowledged the role of these practitioners, it finds no need for expanding the supply of new health practitioners at this time.

A decrease in the numbers of physician assistants and nurse practitioners in training was also rejected. In the opinion of the committee, these groups have established themselves as important providers of primary care. Physician and patient acceptance is high, and there is evidence that the quality of care delivered by these new health practitioners for certain services equals that of physicians. 17/ In addition, there is sufficient evidence of their productivity and potential cost effectiveness to warrant continued support. 18/

Thus, the committee recommends that (Recommendation #3) for the present, the number of nurse practitioners and physician assistants trained should remain at the current annual level. This recommendation is made with the expectation that continued monitoring and health services research will be directed to this area.

In addition, this recommendation is based on the committee's understanding that even with the projected increase in the supply of physicians, physician assistants and nurse practitioners have an important role to play in the delivery of primary care. Their role in those rural communities unable to support a physician is of particular importance. In the opinion of the committee, rural communities with populations of 4,000 or less may be adequately and economically served by a physician assistant or nurse practitioner with physician backup. Even in more populated rural communities, they can augment the care provided by the physician so that the patient can obtain needed primary care on a 24 hour basis. 19/ In addition, new health practitioners can improve access to primary care in urban settings, especially in hospitals, nursing homes, and as part of a team in a group practice.

Moreover, the committee views these providers as enhancing the delivery of primary care by educating patients to lead more healthful lives. The availability of a sufficient supply of new health practitioners could assure that a wide breadth of services is offered to patients on the primary care level. New health practitioners, by concentrating on communication with patients, might help patients to adhere more closely to prescribed regimens, to assure successfully an increased responsibility for their own health, and to face illness and other important events more resourcefully.

The committee also feels that nurse practitioners and physician assistants, properly utilized, can reduce the cost of health care. They are trained in two years or less as compared to the much longer training period of the physician, and their average earnings are about 40 percent of those of a physician. 20/ Moreover, research findings indicate that nurse practitioners and physician assistants can provide a range of medical services at a level comparable in quality to that of physicians. 21/

THE SUPPLY OF PHYSICIANS IN PRIMARY CARE DISCIPLINES

Although physicians are only one group of providers of primary care, the special role of physicians in the health care system makes their availability extremely important. In 1976 the Congress declared that "physician specialization has resulted in inadequate numbers of physicians engaged in the delivery of primary care." 22/

In 1931, almost 95 percent (117,079) of all practicing physicians were in primary care disciplines; 23/ by 1963 only 47.9 percent (or 125,367) were. 24/ From 1963 to 1975, the absolute number of physicians in primary care disciplines increased to 152,365, but their percentage dropped to 44.8 percent. 25/

Although the total number of physicians is expected to increase dramatically by 1990, after adjusting for changes currently underway, the percentage in primary care disciplines will increase to only 50 percent. 26/ However, as discussed previously in this chapter, the

rigorous determination of the aggregate supply is difficult given the current lack of data and level of knowledge in this area. Although the committee acknowledges that other medical specialties and other types of health manpower deliver primary care, the committee believes that the current and projected future supply of physicians delivering primary care, as currently organized, is and will be inadequate to meet the primary care needs of the nation.

STRATEGIES TO INCREASE THE SUPPLY OF PHYSICIANS IN PRIMARY CARE DISCIPLINES

As part of a more systematic approach to increase the supply of physicians in primary care disciplines, the committee explored policy alternatives directed at practicing physicians, particularly those entering medical practice, and at medical students and residents. (Recommendations specifically affecting the medical student and the resident appear in Chapter 5). Physicians select their disciplines at different points in their careers. As many as half do not make their final choice until after graduating from medical school and some not until many years after entering practice. Many factors, including social, economic, educational, and personal influences, determine specialty choice. 27/

The committee considered four strategies for increasing the supply of physicians in primary care disciplines. One was to continue to increase the total supply of physicians with the assumption that some would train in primary care disciplines. This option was rejected because of its cost implications and because the assumption has no rigorous empirical basis. As noted earlier in this chapter, at this time, the committee does not support an increase in the training of physicians.

Another strategy discussed was to organize the delivery of primary care into health maintenance organizations (HMOs) that would be more flexible in ways of reimbursing providers, benefits offered, and participating populations than the HMOs described in the current federal legislation. 28/ The strategy was not adopted because of the lack of data, the inconclusive research findings, and the political difficulty of achieving the needed changes in the near future.

In an attempt to make the practice of primary care more attractive to physicians, the committee considered policies to reduce the income differentials between primary care and other physicians. To accomplish this the committee considered a third strategy of direct controls on income or income ceilings similar to those adopted in other countries, but it rejected them. 29/ They might produce negative work incentives and were deemed politically and administratively unacceptable.

As a workable policy the committee explored a fourth strategy of changes related to reimbursement for the delivery of primary care. The enactment of national health insurance legislation would also have direct and indirect consequences for the supply of primary care physicians. 30/

In developing its reimbursement recommendations, the committee was aware that Medicare, Medicaid, and private health insurance plans differ in their approach to financing health care. Medicare is a federal insurance program, similar in some ways to private health insurance plans but not directly affected by the private market. Medicaid is a state-administered program aided by federal funds and based on welfare principles. There are variations among private health insurers as well. Most commercial insurance companies use the traditional approach of indemnity insurance; that is, they compensate subscribers for the costs of medical care. Blue Shield plans, in theory, assure their members certain units of medical service. The distinction has become blurred with time, and in practice service plans have some indemnity features and many indemnity plans have adopted some service concepts. Differences in philosophy, ownership, and administrative practices will affect the implementation of the committee's reimbursement recommendations.

Currently, physicians are compensated for their services by either salary, capitation payments, or fee-for-service. Salaried physicians usually work for institutions such as hospitals, nursing homes, or group practices. Capitation requires paying the physician for the number of patients he or she is responsible for during a period of time. However, fee-for-service, that is, payment for each service delivered, is still the prevalent method of paying physicians: 71 percent of non-federal patient care physicians are paid by the fee-for-service method. 31/ With fee-for-service payment, physicians' income is determined, to a large extent, by the fee received for each service and the quantity of services delivered.

Private and public third-party payors usually reimburse the physician on a fee-for-service basis. 32/ However, the determination of the maximum level of reimbursement differs among third-party payors. They use fee schedules or customary, prevailing, and reasonable reimbursement (CPR), also known as the usual, customary and reasonable charge method (UCR).

With the customary, prevailing and reasonable method, third-party payors maintain records of the services provided and the charges billed by the physicians in an area. From these, they develop individual and area statistical profiles of physician charges. Medicare, approximately half the Medicaid states, about half of the Blue Shield enrollees and larger commercial insurers use this method. Under Medicare, payment to the physician is based on the reasonable (allowable) charge for the service, which is defined as the lowest of the physician's actual charge, the physician's customary charge, or the area's prevailing charge. 33/ As defined by the programs, the actual charge is the physician's billed charged to the patient for the services provided; the customary charge is the median of the charges filed by a physician during the previous year for the service; and the prevailing charge is the 75th percentile of the distribution of customary charges of all area physicians during the previous calendar year, weighted by the number of times each physician

has billed for that given service. In addition, Medicare has separate reimbursement rates for general practitioners and specialists. Under Medicaid, half the states have separate reimbursement rates for general practitioners and specialists. The definitions of terms such as customary, prevailing, and reasonable are not consistent for all third-party payors, but the method is essentially the same. 34/ Most of the Blue Shield Plans pay for physician services at the 90th percentile of the distribution of all physician charges.

Physicians can bill the patient more than the reasonable charge paid by the Medicare program and the charges paid by some private insurers. Physicians can choose to have the payment assigned to them or to the patient under Medicare and under some private health insurance plans. If physicians accept assignment under Medicare, they may not bill the patient for any difference between their charges and the Medicare payment. However, Medicare covers 80 percent of the cost of physician services, with the remaining portion paid by coinsurance. If physicians do not accept assignment, they may bill the patient more than the Medicare payment but must collect the full amount from the patient.

The effectiveness of using third-party payments as a means of redistributing physician manpower depends upon the physician's participation in a system. There has been a decline in the percentage of physicians participating in Medicare, as measured by the assignment rate which decreased from 64 percent in 1969 to just below 50 percent in 1975. 35/ Medicaid is a mandatory assignment program and the physician must collect no more than the maximum allowable. However, physicians can refuse to participate in the program.

Approximately half of the state Medicaid agencies, about half of the Blue Shield enrollees and many commerical insurers use fee schedules to specify the maximum level of payment for a particular service. The physician is paid at his billed charge or at the fee schedule level, whichever is lower. Fee schedules are determined by a survey of physician's billed charges, through negotiations between insurance companies and medical societies, or, as is done by most state Medicaid agencies, by applying a dollar conversion factor to a relative value system. 36/ Relative value systems establish a quantitative but nonmonetary scale on the worth of one procedure as compared to all other procedures. 37/ For example, if administration of a measles vaccine has a relative value of 2.2 and the conversion factor is 10, then the third-party payor would pay the physician a maximum of $22.00 for the immunization.

Relative value systems describe and code physician's services and are used as a guide to physicians to determine their charges as well as a basic reference to establish fee schedules. 38/ Medicare uses a relative value system when there is no reliable statistical base for determining a prevailing charge for a medical procedure or service in the area, or to determine a physician's customary charge if there is no sufficient data upon which to base this determination.

In 1976 third-party payors paid for 61 percent of the expenditures for physician services, and Medicare and Medicaid accounted for 20 percent. 39/ Although no payment method automatically favors one level of care over another, any payment method can be structured to favor one type of practitioner over another, or one service or procedure over another. The current structure and methods of third-party payment systems do not encourage physicians to enter primary care disciplines. There are identifiable inequities in the way physicians are paid by third-party payors which may deter physicians from providing primary care. Nationally, the average income of physicians in primary care disciplines is much lower than that of other physicians. Internists on the average earned a net income of $53,900 in 1975 compared to net incomes of radiologists and anesthesiologists of $124,400 and $87,000 respectively. 40/

Prevailing charges of Medicare carriers appear to favor non-primary care physicians for some services and procedures. Between 1968 and 1972, Medicare payments to general practitioners and internists grew at a slower rate than payments to surgeons and certain other specialists, which suggests that economic advantages for nonprimary care physicians exist in this program. 41/

Medicare and Medicaid legal provisions inhibit physicians in relatively low-paid primary care fields from attaining the reimbursement levels of more highly compensated physicians. By forbidding reimbursement at a level higher than the 75th percentile of prevailing charges of members of a physician's own specialty in the geographic area, Medicare (and, by extension Medicaid, which disallows reimbursement higher than that supplied by Medicare) limits the reimbursement of physicians in those primary care fields where such reimbursement already is relatively low. Indeed, Medicaid reimburses at an appreciably lower level than Medicare for most services. 42/

Relative value scales also encourage the growth of procedure-oriented specialization among physicians by placing higher values upon separate procedures, such as radiological and laboratory services, than upon other services, such as office visits. Furthermore, specific procedures are more likely to be covered by private insurance. It is estimated that only 20 percent of office visits but 80 percent of surgical services are paid for by third-party payors. 43/ It is likely that some physicians receive no compensation from third-party payors for performing some essential aspects of primary care.

Options and Recommendations

Payment practices of third-party payors place no premium upon the delivery of primary care and in fact may discourage physicians from specializing in primary care disciplines. Thus, to increase the availability and quality of primary care services, the committee recommends changes in the structure and practices of reimbursement methods.

One change considered is to reimburse all physicians at the same level for the same primary care service. One method of achieving this aim is to base the payment level for a service on the minimum level of skill required to provide the service, as measured by the education and training of the physician. This option has the advantage of basing third-party payments for physician services on objective measures rather than on historical precedent and previous fee levels. It also has obvious cost saving implications. However, in the opinion of the committee, it would be difficult to implement and administer.

The committee did not specify how payment levels should be established but they recommended that (Recommendation #4) third-party payors (federal, state, and private) should reimburse all physicians at the same payment level for the same primary care service. This recommendation lessens the financial disincentive to physicians to enter the primary care disciplines by equalizing third-party payments to all physicians for the same primary service, and allows for equal payment for identical services of acceptable quality. Fee levels would be statewide. See Recommendation #8.

The committee recognizes that many primary care services are provided by practitioners who may have the dual role of a primary care practitioner and a specialist; for example, a general internist who has a subspecialty in cardiology or a general surgeon would be in this category. It is also recognized that this system might prove disadvantageous because the practitioner may not be as well trained in the primary care role as in the specialty role, and there may be a tendency to use specialty skills when these are not needed. For example, the cardiologist might be more likely to conduct an extensive hypertensive workup on a newly discovered case of hypertension than would another physician.

The committee suggests, therefore, that specialty differentials in payment levels be limited to services that meet two tests: the service is provided by one who is recognized as having special skills, and the service is provided at the request of another physician (usually a primary care physician).

The committee feels that consultant services may warrant a higher level of payment, since they often involve more complex problems and require greater time and special skills. Elimination of the specialty differential would be an unacceptable option. Yet, adoption of the recommendation without the application of the dual tests proposed above would probably raise the payment level of primary care physicians nearer to that of referral specialists, thus increasing total cost. The assignment of a managerial role to the primary care physician would provide a level of cost and quality control, more clearly separate physicians into primary and referral specialist roles, and provide an operational mechanism for providing reimbursement to all physicians, whether a primary care physician or not, for performing primary care services. There are unresolved issues in using this approach, including whether

referral specialists can refer patients to other referral specialists without patients being required to see a primary care physician first, and whether primary care physicians in a group practice can refer patients to referral physicians in the same group.

To increase the availability of primary care the committee also recommends that (Recommendation #5) third-party payors (federal, state, and private) should reduce the differentials in payment levels between primary care procedures and non-primary care procedures.

As noted earlier, payment for services involving complex procedures or equipment is usually higher than for other services. In many instances, as with the electrocardiogram or chest x-ray, the value was established at an early point in the history of the procedure. Although later technologic advances and higher rates of utilization may have substantially reduced the time, judgment, skill, and cost of the equipment required to perform the procedures, this reduction has not been reflected in the value scales or in physician charges.

The committee considered three ways to remove the disincentive to the provision of primary care procedures: removing the differentials between payments for procedures completely; increasing payments for primary care procedures above those for non-primary care procedures; and reducing the differentials in payments between primary care and non-primary care procedures. The first option was rejected because those procedures that require the most time, skill, judgment, and training warrant some additional payment. The second option was dismissed, because the additional payment for primary care services might produce the necessary additional primary care services and attract more physicians into primary care disciplines, but it would increase the costs of health care.

An intermediate course, and the one adopted by the committee, is to reduce the differentials between procedures. This recommendation would encourage physicians to enter primary care practice. It would also allow some payment differentials based on the levels of training, skill, and judgment required.

Finally, the committee recommends that (Recommendation #6) third-party payors (federal, state, and private) should institute payments to practice units for those necessary services delivered by primary care providers and currently not reimbursed, such as commonly accepted health education and preventive services. The primary care unit, as defined in Chapter 3 of this report, is composed of one or more providers. The majority of such units are currently owned and operated by physicians, although they may be owned and operated by other health providers or private or public bodies.

As emphasized in the definition, comprehensiveness of care, including health education and preventive measures, is an attribute essential to the practice of good primary care. The provision of a broad range of

services, including services for basic medical problems, psychosocial problems, and health education, distinguishes the primary care practitioner from the secondary care practitioner and the referral specialist.

In general, third-party payors tend to restrict the provision of preventive measures. An exception is the Medicaid program which mandates states to provide early and periodic screening, diagnosis and treatment (EPSDT) for those under 21 years of age and family planning services. 44/ Some preventive services are included under both provisions. States vary in their performance in providing services so that only about 20 percent of those eligible (1.1 million) received services under the EPSDT provisions in 1976. 45/ Medicaid also allows the states the option of covering other services and receiving federal reimbursement for them.

There are two major arguments against offering third-party payments to physicians for providing preventive services. One is the limited capability for assessing the efficaciousness of many preventive measures; the other is the possibility of increasing health care expenditures. The probability of an immediate rise in expenditures for health care must be weighed against the possibility of future savings, both economic and in terms of human suffering.

For example, there is a need for education about the health hazards of cigarette smoking. Empirical evidence indicates cigarette smoking is a causative factor in lung cancer, chronic bronchitis, emphysema, ischemic heart disease, and obstructive peripheral vascular disease. Cigarette smoking is considered to be the direct cause of 80 percent of the 80,600 deaths due to lung cancer in 1975. 46/ The economic burden of cancer is high as well. In 1975, 9 percent (23 billion dollars) of the total economic costs of illness was due to cancer. 47/

Because the evidence on the efficacy and effectiveness of many preventive measures is not firmly established, the committee suggests instituting safeguards before establishing payment for particular measures. Criteria should be developed and used for the incorporation of specific measures into a third-party payment system. The criteria of one proposal include an evaluation of the scientific evidence on the significance of the measure and assessment of the costs and benefits in economic and human terms. The proposal suggests preventive services appropriate for each period of life. 48/ In addition, demonstration and special projects to prove the efficaciousness and effectiveness of the measures might be undertaken. Other safeguards against overuse and abuse suggested by the committee are providing payment for preventive services, including health education, for a specific time, such as once a year. Furthermore, such payments should be contingent upon the patient's recognition and certification of receipt of the service. This could be accomplished by the patient cosigning the physician's claim forms for reimbursement.

The recommendation may have effects other than improving the availability of health education and preventive services. No doubt additional

manpower will be needed; however, the number and types of manpower required is uncertain. Possibly, changes will be needed in educational and training programs. The committee believes that on balance the expected increases in length and quality of life compensate for the increased use of primary health care services.

GEOGRAPHIC DISTRIBUTION OF PRIMARY CARE PRACTITIONERS

Physicians in primary care disciplines, like physicians in general, are unevenly distributed among geographic areas. Physicians tend to locate in regions and states with large urban areas. 49/ Even within urban areas there are distributional inequities. Some communities, particularly low income neighborhoods in large cities, often have no physician or too few physicians to serve the population. There are an estimated 45 or 50 million people in rural areas and low income neighborhoods without an adequate supply of physicians. 50/

The disinclination of physicians to locate in rural areas is evidenced by their intrastate distributional pattern. If primary care disciplines are considered to be general practice, family practice, internal medicine, pediatrics, and obstetrics and gynecology, 83.8 percent of primary care physicians were located in metropolitan areas in 1975. Excluding obstetrics and gynecology, the figure decreases to 82.8 percent. In 1975, there were 58.8 physicians in primary care disciplines per 100,000 population in metropolitan areas as compared to 39.1 per 100,000 in non-metropolitan areas. 51/ Within urban areas, studies indicate a relocation of physicians from the inner city to the suburbs. A study of Chicago documents the changing distribution of physicians from 1950 to 1970. The physician to population ratio in suburban areas was 123 per 100,000 population in 1970, while the inner city ratio had fallen from 111 per 100,000 population in 1950 to 75 per 100,000 population by 1970. 52/

The disparities in these ratios suggest that portions of the population may have difficulty in obtaining physician services. However, even the presence or availability of a physician does not ensure that the needed personal health care will be delivered. Access to and use of health care services depend on numerous other factors including the patient's physical and economic ability to obtain the services, the acceptability of new health services by the patient, and the nature and quality of the organization delivering the service. Thus, the committee notes that improving the distribution of primary care physicians will not by itself ensure proper access to personal health services.

The family physician, the physician assistant, and the nurse practitioner appear to have distributional patterns that may improve the availability of primary care in underserved areas. Unlike physicians in general, family physicians are concentrated in rural areas. In 1976, 54.9 percent were located in cities with populations of 30,000 or under, and 11.1 percent practiced in cities with populations between 2,000 and 5,000. 53/

In 1976, 71 percent of physician assistants and 69 percent of nurse practitioners practiced in primary care settings. 54/ Physician assistants are more rurally distributed than physicians. Although almost 25 percent of the population resides in non-urban areas, more than 33 percent of all physician assistants compared to only 12.8 percent of all physicians are located in these areas. 55/ The location pattern for nurse practitioners shows that 36 percent of the 1971-74 classes currently practice in inner city neighborhoods and 16.9 percent in rural communities. 56/

Options and Recommendations

The committee believes that most early efforts to redistribute physician manpower have either been unsuccessful or on too small a scale to redress the imbalance. Since it is too soon to evaluate the effects of present programs, the committee supports their continuation. 57/ In addition, given the evidence on the inadequate distribution of physicians in primary care disciplines and recognizing the contribution of physician assistants, nurse practitioners, and family physicians in delivering primary care in underserved areas, the committee recommends that (Recommendation #7) training programs for family physicians, nurse practitioners, and physician assistants should continue to receive direct federal, state, and private support, because these practitioners are the most feasible providers of primary care to underserved populations.

Family physicians, more than any other type of physician, are trained to provide the care which conforms to the committee's definition of primary care. They are usually trained in ambulatory care settings. Therefore, in the committee's opinion, they will be less likely to require a hospital nearby as a prerequisite for establishing a practice. This permits them to serve the medical needs of the sparsely populated rural communities. In the future, other properly trained physicians in primary care disciplines such as internists and pediatricians could make similar contributions to primary care and should then receive similar support.

Continued support for physician assistants and nurse practitioners is based on the committee's belief that underserved populations, especially in rural areas, can obtain economical and quality medical care from these providers. Even with the projected increase in physicians, it is likely that there will still be small rural communities unable to support the practice of a physician. In satellite clinics, physician assistants and nurse practitioners can provide primary care with physician support for these rural populations.

The committee agreed that reimbursement methods could be used to improve the geographic distribution of primary care practitioners. It is premature to anticiapte the effects of a national health insurance program. Current reimbursement policy, in the committee's opinion, provides no incentive for primary care practitioners to locate in underserved areas.

The committee recognizes the limits of this choice. The research evidence on the relation of reimbursement to physician location is scant and inconclusive. The physician's sensitivity to economic factors is also unclear. In the committee's opinion, the locational determinants of physicians in primary care disciplines are probably similar to those of physicians in general: prior contacts, area characteristics, and financial factors. Prior contacts in an area include educational contacts, including basic medical education and residency training. The type of community in which the physician and his or her spouse were raised, as well as the location of friends and relatives, are also correlated with location choice. Area characteristics related to attracting physicians are higher per capita income, high rates of population growth, comfortable climate, and the availability of cultural and educational programs. Access to hospital facilities and professional relationships also appear to attract physicians. 58/

Financial factors such as income and hours worked have been studied but the results are less clear. 59/ Research in Canada suggests that physicians do respond to income differentials in deciding where to live and practice. 60/ A recent Institute of Medicine study found that fees for physicians' services are positively related to the number of physicians per capita. 61/ There is also evidence that physicians in areas with high ratios of physicians per capita work fewer hours to obtain incomes similar to those to physicians in areas with low ratios. 62/

Although there is less direct evidence linking reimbursement levels and physician location, it is the committee's opinion that current policies discourage the adequate distribution of primary care. Charges upon which reimbursement are based have evolved over the years and vary from one locality to another. It has been found that prevailing fees for the same procedures differ in localities even after adjusting for the cost of living. 63/ Recent analyses of Medicare data confirm the hypothesis that Medicare payment levels are low in rural, underserved localities. For identical services Medicare prevailing charges were found to be 22 percent higher in counties with more than 300 physicians per 100,000 population compared to counties with fewer than 25 physicians per 100,000 population. 64/ The highest prevailing charges appear to be in metropolitan areas with high physician to population ratios, high incomes, and high concentrations of hospitals and medical schools. 65/

The committee believes that reimbursement now acts to discourage the adequate distribution of primary care physicians, especially to rural underserved areas, and recommends that (Recommendation #8) third-party payors (federal, state, and private) should discontinue all geographic differentials in payment levels for physician services within a state. The other options considered by the committee include:

- Third-party payors (federal, state, and private) should narrow the geographic differentials in payment levels for physician services to an extent estimated for differences in the costs of producing these health services.

- Third-party payors (federal, state, and private) should establish higher payment levels for the provision of primary care services in rural and inner-city areas than in adequately served areas.

- Third-party payors (federal, state, and private) should discontinue all geographic differentials in payment levels for physician services within a region.

- Third-party payors (federal, state, and private) should discontinue all geographic differentials in payment levels for physician services nationwide.

The first option, which allows for adjustments in the costs of producing medical services in different localities, was rejected by the committee because it would be difficult to implement and would not provide an incentive to deliver primary care in underserved areas. Implementation would be difficult because indices showing costs of producing medical care are not available for small geographic areas across the nation, nor do those that are available reflect differences in quality. Moreover, the committee favored equal payment in its belief that some underserved rural areas may have lower costs for providing medical services, such as rent and salaries, and hence identical payments would act as incentives to the delivery of primary care in these areas.

The second option, which establishes higher payment levels for the provision of primary care services in rural underserved areas, would be an incentive to provide primary care in these areas. Although it may produce some socially desirable results, the committee dismissed this alternative because of its cost implications.

The committee believes an efficacious way to eliminate financial disincentives to primary care physicians to practice in underserved rural areas is by establishing uniform reimbursement levels. The approach would have to be implemented gradually to avoid the dramatic cost increases of immediately raising reimbursed charges. Lowering reimbursement levels, of course, would be considered unacceptable by many physicians and could drive many physicians away from participating in public programs and perhaps motivate them to increase the number of services they provide or reduce the time they spend per patient visit. In the committee's opinion, the possibility of increased costs are more than offset by the possibility of increasing the availability of primary care physicians and quality primary care in rural areas.

Most committee members favored establishing uniform statewide reimbursement levels rather than regional or national levels. A uniform national reimbursement level involves administrative and implementation problems; regions are artifical entities and have little experience in public accountability. Thus, the states were favored as political entities that could deal appropriately with the responsibility of setting reimbursement levels. 66/

The practice of not reimbursing for primary care services provided by nurse practitioners and physician assistants is another policy that perpetuates the uneven geographic distribution of primary care practitioners. Specific information on the payment practices of Blue Shield and commercial insurers in this respect are not available, but Medicare does not reimburse for services provided by physician assistants and nurse practitioners, 67/ and only a few state Medicaid agencies allow payment for such services. 68/

Restricting reimbursement for these providers, as well as requiring the physical presence of the supervising physician, greatly limits their usefulness in underserved areas, especially rural clinics. Various legislative proposals to amend the relevant Medicare provisions and to allow for the payment of services furnished by physician assistants and nurse practitioners in rural health clinics have been proposed. 69/ The recently enacted P.L. 95-210 provides reimbursement to rural health clinics under Medicare and Medicaid for services furnished in rural health clinics by nurse practitioners and physician assistants, if the nurse practitioner or physician assistant is legally authorized to furnish such services. This legal authority includes physician supervision. The act contains provisions for demonstration projects for clinics employing nurse practitioners and physician assistants in medically underserved urban areas. 70/

The pattern of non-reimbursement for primary care services furnished by nurse practitioners and physician assistants is inconsistent with public policy that promotes the distribution of primary care practitioners in underserved areas. Therefore, the committee recommends that (Recommendation #9) third-party payors (federal, state, and private) should reimburse the practice unit for the same primary care services at the same payment level regardless of whether the services are provided by physicians, nurse practitioners, or physician assistants. The practice unit can be owned and operated by physicians, other health professionals, or government organizations. In making this recommendation, the committee recognizes the unresolved problem of determining whether a service, e.g., a physical examination, delivered by a physician is the same service when delivered by a nurse practitioner or physician assistant. Some believe that the physicians' medical expertise precludes their service from being the same service as that delivered by a nurse practitioner or physician assistant. Another point of view is that nurse practitioners and physician assistants deliver some primary care services with more communicative and facilitative skills than most physicians. Most committee members agreed that, for reimbursement purposes, a service delivered by a physician assistant and nurse practitioner is similar to a service delivered by a physician if both are delivered at an acceptable level of quality.

The committee rejected the option of the reimbursement for primary care services provided by physician assistants and nurse practitioners at a lower level than for similar services established for physicians. Payment differentials are discriminatory and connote a two-tiered system

of health care. In addition, the evidence indicates that the quality of care for the range of services provided by nurse practitioners and physician assistants is equivalent to that of physicians, 71/ and that nurse practitioners and physician assistants increase the availability of primary care services. A reduced payment level for physician assistants and nurse practitioners may be offset by administration and implementation costs. Furthermore, a reduced level of reimbursement might hinder their employment potential. 72/

MONITORING AND RESEARCH NEEDS

The issues of the adequacy of the supply and distribution of primary care practitioners require continuing attention. Policy decisions and alternatives should be based on an accurate picture of the current as well as future situations. Thus, the committee strongly recommends that (Recommendation #10) there should be an active, continuous program for monitoring a number of factors including the numbers and specialty and geographic distribution of physicians, nurse practitioners, and physician assistants, and also for monitoring the perceptions of the patient population regarding the adequacy and availability of primary care services. A factor that requires particular attention is the number of physicians who change their specialty, even after they are in practice. The fact that a physician is enrolled in or completes a residency in a specialty does not ensure that he or she will later practice in that specialty. Many physicians who train in internal medicine, pediatrics, family practice, general practice, or obstetrics and gynecology later change to referral specialties. 73/ The magnitude of this change must be monitored in developing policy about primary care manpower.

The committee also recommends that (Recommendation #11) an increased emphasis should be given to health services research in primary care manpower. In the committee's judgment, research in primary care manpower is essential for the intellectual development of the field. A field augments its body of knowledge, gains professional prestige, and increases its competency through research. The committee also suggests that primary care faculty members participate in research efforts to augment faculty expertise and to add another positive dimension to the role model of a primary care physician.

In its attempt to evaluate the need for primary care practitioners and the factors that attract physicians and other health practitioners to the delivery of primary care, the committee discovered a paucity of reported reliable research. The type of research that the committee believes would be most helpful is that of health services research. Health services research has the potential of effecting a positive change in the content, organization, and delivery of health services. Although there is disagreement on a workable definition of health services research, it has been defined as encompassing "...broad scientific fields, the overall objective of which is to improve the provision of health services." 74/

There are studies now underway that will provide data on staffing and manpower utilization patterns in primary care practice arrangements, on the case mix seen by specialists and the time they spend in nonspecialty practice, and on the utilization of new health practitioners. 75/

More definitive information is needed about the factors involved in the physician's choice of specialty and in the physician's decision to change specialties. The retention of physicians and other practitioners in the primary care field needs investigation. Some of the factors to be researched include the influence of professional contraints, educational experiences, and community, social, and personal characteristics.

Research is needed to determine the population's need for primary care services and the manpower for meeting that need. Currently there is no agreement about the definition of needs or an adequate methodology for their assessment or an understanding of the work behavior of providers. Moreover, to facilitate this research, accurate data is needed on the use of specific primary care services, the efficacy of primary care procedures, and the differing roles of primary care practitioners.

In addition, further work on the quality of primary care, the cost and efficacy of the delivery of primary care in different practice arrangements, team delivery of primary care, and the effect of reimbursement policies and credentialing on the providers of primary care is needed.

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73. William D. Holden and Edithe J. Levit, "Migration of Physicians From One Specialty to Another: A Longitudinal Study of U.S. Medical School Graduates," Journal of the American Medical Association 239 (1978): 205-9; Henry Wechsler, Joseph L. Dorsey and Joanne D. Bovey, "A Follow-up Study of Residents in Internal Medicine, Pediatrics and Obstetrics-Gynecology Training Programs in Massachusetts," New England Journal of Medicine 298 (1978): 15-21.

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75. Ongoing studies include a nationwide survey of physicians and surgeons in approximately twenty medical and surgical specialties conducted at the University of California Medical School. The study is attempting to derive empirically a basis for the categorization of care as primary and non-primary care. A long diary kept by the physicians will provide information about the case mix seen by the specialists and will provide estimates of how physicians spend their professional and nonprofessional time. The Physician Extender Reimbursement Study conducted at the University of Southern California and by Systems Sciences, Inc. is examining the effects of various levels of reimbursement on the utilization, cost-effectiveness, productivity, and types of services rendered by nurse practitioners and physician extenders. The Health Services Research and Development Center of the Johns Hopkins Medical Institutions is examining the appropriate type of manpower to use in urgent, walk-in facilities and the effect of utilization of such facilities on the continuity and coordination of primary care. Another Johns Hopkins project is examining the anxiety component of ambulatory care with respect to outcome measures such as patient satisfaction with care and the relation of the resolution of anxiety to different types of primary care practitioners. Among the research being conducted at the Health Services Research Center of the University of North Carolina at Chapel Hill is a comprehensive evaluation of several models of rural primary health care programs including the effect of various mixes of providers on the programs.

Chapter 5

EDUCATION FOR PRIMARY HEALTH CARE PRACTICE

In the past ten years, primary care has been increasingly emphasized in education programs for health professionals. Family medicine departments have been established in most medical schools (Figure 1), and a growing share of residency positions has been offered in primary care programs. At the same time, nursing and other nonmedical disciplines have extended their responsibilities by taking a team approach to primary care problems, and federal and state governments have supported the education of more professionals in various disciplines to provide primary care. 1/

This increased attention to primary care education is important to primary care manpower policy in two ways. First, professional manpower goals can be attained only if education programs provide a sufficient supply of professionals. Second, the nature, scope, and quality of education help determine the extent to which manpower meets the public's needs.

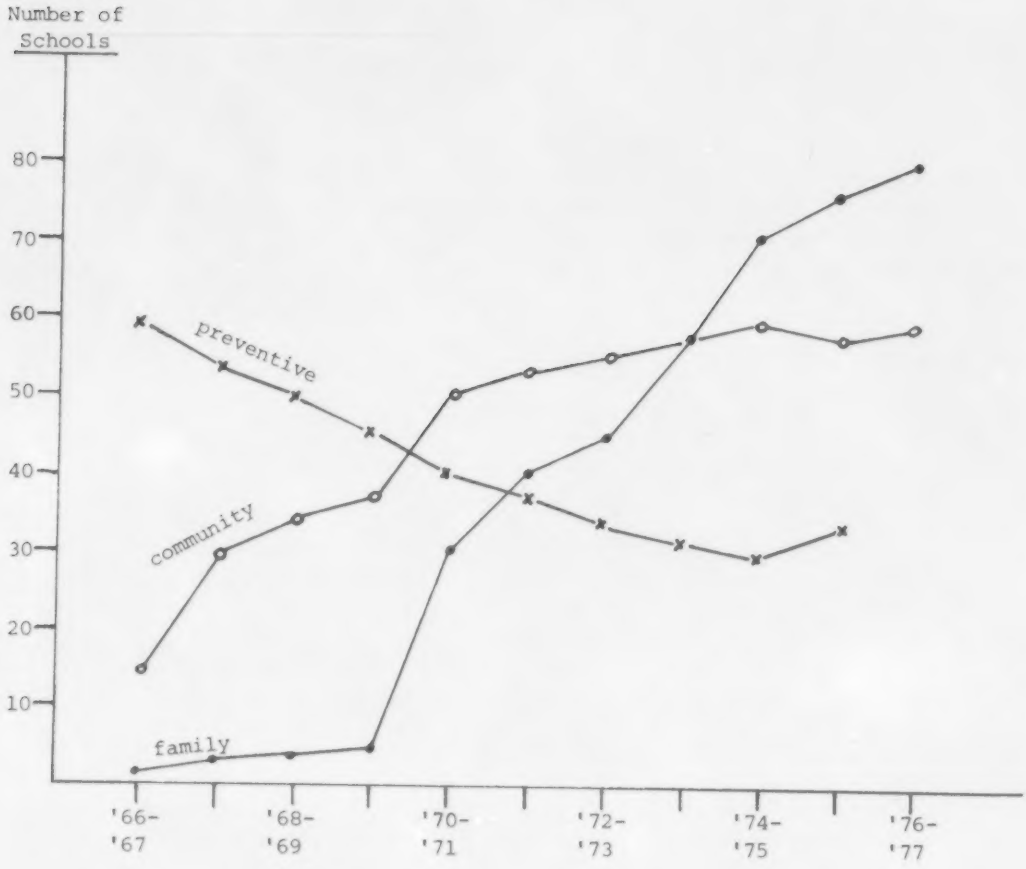
Issues discussed in this chapter are the total number of primary care residencies nationwide, public support of graduate medical education in primary care, the nature of medical education, and credentialing of primary care practitioners. The chapter reviews the state of primary care manpower education and offers recommendations to improve on the record of recent years. These recommendations are offered after careful consideration not only of alternatives but also of possible deleterious results of policy changes. The committee has tried to be particularly mindful of the fact that new policies can produce unintended consequences, which require careful thought and attention.

The study committee supports training of nonphysicians - in particular, nurse practitioners and physician assistants - to provide primary care. 2/ However, today physicians have the central role in the delivery of primary care in this country, as in other industrialized countries, 3/ and the committee therefore concentrates on medical education.

EVOLUTION OF MEDICAL EDUCATION

The present model for undergraduate medical education was developed after publication of the Flexner Report, Medical Education in the United

FIGURE 1: U.S. MEDICAL SCHOOLS WITH DEPARTMENTS OF FAMILY, COMMUNITY AND PREVENTIVE MEDICINE, 1966-76*



* Departments are discrete administrative units. Combined departments are included in each category.

Source: Association of American Medical Colleges, Directory of Medical Education (1966-67 through 1976-77).

States and Canada, in 1910. That report criticized the unregulated proprietary schools that were graduating many poorly trained physicians. Reforms stimulated in part by the report included defined entrance requirements for medical schools, generally including a college degree; development of a full-time faculty trained in both basic science and clinical medicine; firmer economic bases for qualified medical schools; laboratories within the schools to help assure excellence among basic science faculties and to provide resources for student learning; and direct academic medical center influence over teaching hospitals as bases of student learning in clinical medicine.

By the end of the 1940s, these reforms had been largely accomplished. After World War II, proposals for direct funding of medical education and for national health insurance were rejected by the U.S. Congress, but the movement for more public support for medicine resulted in increased public funding for biomedical research. From 1965 to 1974, federal obligations for biomedical research and development grew from 1.17 to 2.75 billion dollars (of which the National Institutes of Health expended 61 and 63 percent, respectively). 4/ This funding indirectly subsidized medical education by permitting employment of more full-time researcher-instructors, but it also required diversion of medical school resources since the federal funding was always lower than the cost of the research. 5/ The results were an enhanced biomedical research establishment and remarkable advancements in scientific knowledge, which were reflected in education programs where students were encouraged to specialize.

By the mid-1960s, primary care manpower shortages were perceived, and medical schools altered some of their priorities to accord with new federal and state legislation. First-year medical and osteopathic school enrollments increased 41 percent between 1963, when the first federal Health Professions Educational Assistance (HPEA) legislation was enacted, and 1976. 6/ New health practitioners were trained to increase access to primary care, and family medicine departments were established, partly with HPEA support in the 1970s. The results of these policies are not yet fully apparent. Medical school and post-graduate training require approximately eight years to complete, and a new medical school requires about five years of planning and development before it can open.

THE NUMBER OF PHYSICIANS TRAINED IN PRIMARY CARE

Interest in increasing the supply of primary care physicians currently centers on the medical specialties usually associated with comprehensive and coordinated services--family medicine, general internal medicine, general pediatrics, and to some extent, obstetrics and gynecology. (Federal health manpower legislation excludes obstetrics and gynecology from the list of primary care specialties, although the American Medical Association includes it. The present study has found that many American women receive many health services from obstetricians and gynecologists but did not determine the appropriateness of primary

care delivered by these specialists.) 7/ Thus, to expand the supply of primary care physicians, the Congress in the 1976 Act provided an inducement for medical schools to place residents in family and general internal medicine and general pediatrics. This inducement, a central feature of the Health Professions Educational Assistance Act of that year, 8/ required medical schools to place 35 percent of first-year residents in 1977, 40 percent of the residents in 1978, and 50 percent of the residents in 1979 in these specialties as a condition for receiving federal capitation support with statutory limits of $2,000 per student per year.

Several considerations may be relevant to a determination of the most desirable number of residencies in primary care specialties. For example, the experience of other countries with different percentages of practicing physicians providing primary care as opposed to secondary or tertiary care may be instructive. Also, the potential effectiveness of a percentage goal in attaining primary care needs is related to the effects of primary care residency training on the supply of practicing primary care physicians.

Proportion of Physicians in Primary Care

Recent experience does not clearly show what portion of physicians should practice in primary care. A greater percentage of physicians are general practitioners in other Western countries than in the United States. For example, the proportion of physicians who are general practitioners is twice as high in Australia, Canada, Belgium, and Norway than in the United States. 9/ But international comparisons are difficult to make due to the lack of uniformity of data and delivery systems. Similarly, in this country different physician specialty mixes exist in different geographic areas or within different comprehensive health plans, but research has not yet clearly revealed the effects of such varying mixes on patient satisfaction, the health status of the population, outcomes of care, or other indicators of quality.

In one sense especially, a percentage of physicians providing primary care is an oversimplified representation of a complex scene. A physician labelled as a primary care provider might devote part of his or her practice to specialty procedures of particular personal interest. And a physician labelled as a secondary or tertiary care provider might also deliver primary care to many patients. 10/

In the mid-1970s, most practicing doctors of medicine were not in primary care fields. In the 1975-76 academic year, 36 percent of all filled residency positions were in the fields of general or family practice, internal medicine, or pediatrics; another 7 percent were in obstetrics and gynecology. 11/ At the end of 1974, 40 percent of doctors of medicine whose major professional activity was patient care considered themselves general practitioners, family physicians, internists, or pediatricians; another 7 percent considered themselves obstetricians and gynecologists. 12/

Many factors besides current percentages are involved in setting a percentage goal for the optimal number of primary care physicians. One factor is the population's need for specialty procedures and the frequency with which such procedures must be performed to maintain the specialist's competency. Another factor is the national requirement for primary care services related to the supply, productivity, and geographic distribution of physicians rendering the services. Also involved is the volume of primary care services provided by different mixes of primary care physicians or interprofessional configurations. Data collection pertinent to these factors now appears inadequate to anchor any percentage goal in generalizable empirical findings.

Residency Training and the Supply of Primary Care Practitioners

Assignment of a medical school graduate to a residency in internal medicine or pediatrics does not guarantee the making of a life-long primary care practitioner. The resident may later decide to obtain training in a subspecialty, to switch specialty fields in mid-career, or to limit the primary care portion of his or her practice to selected procedures or certain times. 13/ For example, in the years 1971-75, 15,241 doctors of medicine became certified in general internal medicine, while 6,986 certificates were awarded in internal medicine subspecialties. 14/ These figures suggest that in many cases graduate training in general internal medicine is an early step in preparation of a subspecialist rather than a primary care practitioner.

To a large extent, these kinds of practice decisions made by physicians may reflect the kinds of patients or cases of interest to the physician, demands for medical services, and reimbursement policies. Mere establishment of residency quotas does not assure a steady supply of primary care practitioners.

Options and Recommendations

The current goal, articulated in the 1976 Health Professions Educational Assistance Act, is an allocation of 50 percent of all first-year residency positions to the primary care specialties of family medicine, general internal medicine, and general pediatrics. This 50 percent goal might be maintained, increased, decreased, or abandoned in concept.

Selection of any of these options relies on some estimates of primary care demands on the total expected physician supply and on some speculation about the effects of residency allotments on individual physicians' decisions to provide primary care. Although the goal of 50 percent does not appear to rest on collected data or even on a formal expert group process, it has not been widely criticized as unrealistic. In fact, the Bureau of Health Manpower of DHEW determined that 52.8 percent of the first year residents in 1977 were being trained in primary care specialties. 15/

Because of the paucity of relevant data, the committee believes that it is unable to choose a precise percentage goal for primary care residencies with sufficient confidence that attainment of the goal would improve health or consumer satisfaction.

In the committee's opinion, primary care is a unique service, best provided by those trained to provide it. Primary medical care can be provided by any practicing physician but most sensibly is provided by physicians trained in primary care residencies, rather than in other fields. And, because the committee's definition specifies that primary care could include the management of the great majority (more than 90 percent) of health problems presented to physicians, as well as the coordination of the management of referred cases, 16/ most physicians probably should receive their specialty training in primary care. However, the committee is inclined to believe that a figure significantly greater than 50 percent, perhaps in the range of 60 to 70 percent, should be chosen, now during the transition when shortages exist in the supply of primary care practitioners.

One important reason for increasing the percentage of physicians trained in primary care specialties is some physicians may later deliver non-primary care. A recent study of physicians with graduate training in internal medicine, pediatrics, and obstetrics and gynecology in Massachusetts revealed that, less than ten years after enrollment in the programs, most physicians believed that less than half their practice comprised primary care. 17/ A national study showed that one-sixth of physicians trained in primary care specialties switched to non-primary care specialties within five years. 18/ Because of the physician migration from primary care, the need for primary care is even greater; more than two-thirds of all visits to office-based physicians are to general or family practitioners, internists, pediatricians, and obstetricians and gynecologists. 19/

Several disadvantages could result from a shortage of residency training positions in primary care. Demands for primary care might be unmet, or physicians not trained in primary care might not use their costly training, and instead, turn to meet primary care demands. Further, physicians providing primary care after being trained in other fields might feel tempted to perform unnecessarily the specialty procedures for which they were trained, or they might perform those procedures so seldom that they would not maintain clinical competency in them.

(Recommendation #12) The committee recommends a substantial increase in the national goal for the percent of first-year residents in primary care fields.

Residency distribution affects not only the mix of medical services offered and the training experience of physicians providing those services, but also the distribution of services in training facilities and the economics of health care. Facilities are constructed, support personnel

are trained and employed, and procedures are performed and paid for largely because of expectations about physician specialization. Residency goals or quotas should be chosen carefully and adjusted when necessary. Elsewhere this report endorses health services research into physician activity across specialties and into patient activity across categories of accessibility to health care. 20/

Separate from the question of what the percentage goal should be is the question of how that goal should be used. Primary care residency goals can be used in evaluating our system of medical education or in measuring medical schools or medical centers (including hospitals) for purposes of accreditation or public or private financial support. Medical students and applicants to medical school or residency programs also might wish to compare an institution's percentage of affiliated primary care residency positions to the national goal. It is important to recognize that service institutions as well as educational institutions play a role in graduate medical education.

The committee accepts the use of residency goals as a federal funding criterion, as is now being tried in capitation support under the 1976 law. However, it notes that residency goals are not themselves sufficient to ensure that the needed number of physicians will enter primary care.

PUBLIC SUPPORT FOR PRIMARY CARE RESIDENCY PROGRAMS

In addition to criteria for capitation grants to medical schools, public efforts to provide primary care include government financial assistance for residency training in family practice, general pediatrics, and general internal medicine. The wisdom of this support depends on judgments about the federal and state roles, financial incentives as an alternative to regulation, and the distribution of limited public funds.

Federal and state governments have shown a commitment to foster medical training in primary care. The 1976 Health Professions Educational Assistance (HPEA) Act authorized 20 million dollars for each of the succeeding three fiscal years for the construction of primary care teaching facilities. 21/ The same act authorized support for establising and maintaining departments of family practice in medical and osteopathic schools and for providing graduate training in family practice, general pediatrics, and general internal medicine. 22/ Area Health Education Centers (AHECs) are given HPEA support for, among other purposes, residency training in family practice and general internal medicine. Additional funding is allowed for team training for third and fourth year medical students in health manpower shortages areas.

State governments have been supportive in funding and establishing family practice departments, especially in state universities. States also have played key roles in the development of AHECs (most notably in the case of North Carolina 23/) and in the construction of ambulatory care training facilities.

Options and Recommendations

The 1976 HPEA Act places new requirements on the receipt of federal funds by medical schools and training programs. Conditions on capitation support - such as the requirement that a certain percentage of residency positions be in primary care disciplines - sometimes are considered a prelude to federal control over academic policies and curricula. In contrast, the targeting of federal support to specific projects, including the development of family practice residency programs, provides incentives which educational institutions or other facilities are free to reject without jeopardizing federal support for other purposes.

Because public financial resources are limited, health policy leaders addressing the issue of government support for primary care residency programs must realize that a recommendation for public support of primary care residency programs presupposes that other contenders for public funds will be disappointed. Therefore, such a recommendation presumes not only the appropriateness but also the relative need for government assistance and the potential social benefits from the supported programs.

A recommendation for support of primary care residency programs also might be grounded in the belief that primary care training can produce a long-run saving to society. Primary care practitioners may be especially skilled at preventing costly illnesses and managing health problems inexpensively, whereas a large supply of secondary and tertiary care practitioners may result in the more frequent use of relatively high-cost procedures. Such cost effects, however, remain to be demonstrated.

Relative training costs are another economic consideration. A recent local study determined that graduate training in primary care costs about $7,000, above patient care costs, annually per resident. 24/ If primary care services were more generously reimbursed, then patient care costs might offset a larger share of the training costs. An Institute of Medicine study determined that among twelve types of graduate medical training programs, family practice residency programs were the least costly, while general pediatrics and internal medicine residency programs cost the fourth and fifth least per trainee, respectively. 25/

In the context of government support, primary care residency programs are considered in this report, as in the 1976 HPEA Act, approved programs for the graduate training of medical and osteopathic physicians in family practice, general pediatrics, and general internal medicine, regardless of whether the program is directed by a school, a hospital, or another institution. In the committee's opinion, of course, the programs most wisely supported by any funding source provide training and experience in primary care as defined in Chapter 2.

To the extent that federal and state authorities respond to contrasting pressures and imperatives, conflicts could arise in the making of primary care manpower policy. For example, a state might decide not to provide any funds to maintain primary care residencies, leaving the full burden to the federal government's discretion. (Matching fund programs, a moratorium on all federal aid other than start-up assistance, and massive capitation support with strict conditions are among federal vehicles available for preventing such state government action, although each of these vehicles encounters philosophical and administrative objections.) Ultimately, states appear to have different policy levers than the federal government in developing a uniform primary care manpower policy. The federal government has made primary care initiatives an outstanding feature of HPEA. One factor impeding the development of a uniform state policy is that policy coordination is difficult to achieve among the states. State efforts to develop a uniform policy also would be hampered by state concentration on public, as opposed to private, schools.

The committee considered whether to recommend continuing or terminating federal or extraordinary state financial support for primary care residency programs.

Long-term federal support was seen to have the possible detrimental effect of tending toward federal regulation, with adverse consequences for the flexibility of medical schools and graduate training programs. But the committee believes that residency programs must be built up in order to produce sufficient numbers of practitioners adequately trained to deliver primary care. Federal support appears to be a necessary adjunct to state activity, given current constraints on state revenues, the judgment that primary care residency programs are a national need, and the difficulties of coordinating medical manpower policy on the state level. An additional reason for maintaining federal support is that the funding mechanisms are already in place as part of HPEA.

The committee therefore concluded (Recommendation #13) that federal and state governments should continue to promote primary care partly by using financial incentives for the creation and support of primary care residency programs. This is by no means the only desirable method for reinforcing primary care in medical education, but it is a useful and attractive one. Public expenditures should be earmarked for graduate medical and osteopathic education in primary care disciplines until there are graduate programs training enough physicians to deliver primary care. 26/

PRIMARY CARE MEDICAL EDUCATION

Medical schools and legislatures have taken action in recent years with important effects for primary care. As suggested by the historical summary at the beginning of this chapter, these changes have followed years of enhancement of specialization and scientific knowledge in medicine.

Changes in the Undergraduate and Graduate Medical Curriculum

A new medical school emphasis on primary care might be reflected in changes in the curriculum. Although no studies have comprehensively examined recent trends in the array of courses available to medical students throughout the country, comprehensive care programs and departments of community and social medicine were developed in many medical schools during the 1960s. In the present decade, most schools have established departments of family medicine as well as primary care programs in other clinical departments.

A greater diversity in the academic and cultural backgrounds of medical school entrants was projected by a committee of the National Board of Medical Examiners in 1973. 27/ In 1975-76, 15 percent of medical school entrants had undergraduate majors in psychology, social sciences, humanities, general studies, or business. 28/

Approved residency programs in family medicine, initiated in 1969, have grown to 325 in 1977. 29/ Approved family practice residencies are of three years' duration and rely on a family practice center as a basic training ground. The resident spends a minimum of one-half day a week in the center and maintains continuing responsibility for a selected group of patients that represent a spectrum of problems from chronic disease to health maintenance. Behavioral science and epidemiology also are stressed. Several other types of departments, especially internal medicine, now offer primary care tracks for interested residents.

Legislative Approaches

Lack of access to medical care became a paramount public concern in the 1960s. Direct federal aid for medical education was initiated with passage of the first HPEA Act in 1963, which encouraged medical schools to produce more physicians. Two years later medical schools began to receive institutional grants, with the proviso that the schools increase enrollments. Support was increased under 1968 and 1971 health manpower legislation.

Federal aid for medical education initially has survived a decline in concern over a possible physician shortage. The 1976 HPEA Act marked both the end of congressional efforts to expand physician supply and the start of congressional efforts to support only those medical schools active in primary care. Besides establishing primary care residency quotas as a condition of capitation support and offering a series of incentives to create or expand primary care programs, the act also provided for generous support for students pledged to practice in the National Health Service Corps after graduation. Corps members serve populations designated by DHEW as underserved.

Since the late 1960s, states have developed a variety of approaches to increase the supply of primary care practitioners or improve access to primary care services. In 1969, the New York legislature passed an act

that required a family practice department in all state medical schools. Subsequently, other states have mandated such departments in their state medical schools. By 1977, almost every state with a medical school had taken some legislative action to affect its medical schools or residency programs. 30/ Most of these have provided specific financial support for family practice programs in both undergraduate and graduate medical education.

One legislative approach to meeting primary care needs is the establishment of Area Health Education Centers (AHECs). First proposed in 1970 by the Carnegie Commission of Higher Education, 31/ AHECs are intended to improve both the geographic distribution of health care providers and the clinical experience of practitioners-in-training by combining education and service functions in health manpower shortage areas. Both primary care residencies and undergraduate medical preceptorships, often set in team contexts, are based in AHECs, which currently are supported by the DHEW Bureau of Health Manpower and by several states. 32/ While evaluation efforts are being made, it is now too early to determine the success of AHECs in improving the distribution of services in a cost-effective manner, in leading students into primary care careers, in providing satisfactory educational settings, or in coordinating care across professions.

Options and Recommendations

Medical schools' influence over primary care manpower education involves the selection and assignment of residents, undergraduate curriculum, faculty composition, research, admission standards, physician assistant training programs, even in some cases continuing medical education. In all these areas, issues exist concerning the proper ways to improve the quantity and quality of primary care training.

These are issues directly confronting medical schools, but they are are also of interest to policymakers. Public expenditures might be supplied only to those schools meeting defined primary care objectives, assuming that promotion of primary care is a major purpose of public financing of medical education. However, medical educators are sensitive to the idea that federal pressure on faculty decision-making could restrict academic freedom, and several medical schools have begun to reevaluate or even reject federal capitation support.

In the committee's view, education for primary care in the United States has had several developmental problems. There is a lack of faculty role models in primary care, and generalists sometimes are subtlely portrayed as inadequately trained physicians. The committee also believes that insufficient attention has been devoted to teaching and research in behavioral and social sciences, to the coordination and continuity of health care, and to clinical experience in outpatient settings.

In an educational atmosphere permeated by these factors, primary care prospects are dimmed, for the future of the primary care concept (like any medical idea) depends heavily on its being regarded favorably in academic medical centers. This educational atmosphere leads the committee to advocate an across-the-board effort, aimed at all levels and aspects of medical education, because important changes in medical education are necessary to create an environment where primary care education can flourish.

Some signs of change already are evident. The rise of family practice departments in most medical schools demonstrates medical schools' receptivity to primary care. The committee believes that the creation of family practice departments is only one of the many steps that need to be taken.

Because of the need for effective and widespread reform, the committee in its deliberations rejected the course of advocating only minor adjustments in medical education, to be accomplished in piecemeal fashion. On the other hand, the committee proposes no detailed agenda for reform of medical education. Rather, general recommendations are presented in several education areas important to the enhancement of primary care - namely, medical school admission standards, curriculum, clinical experience, residencies, continuing education, and team training. These recommendations should be implemented as a unit in order to achieve reform in the atmosphere of medical education.

The committee recognizes that these areas in which it offers recommendations are among several areas of medical education where action could be taken to improve or expand primary care training. One option facing the committee was to present recommendations affecting all such areas of identifiable relationship to primary care. To illustrate, a recommendation could have been made to encourage primary care practitioners to take continuing education courses in primary care. Or a recommendation could have been made to require all medical students to participate in a clinical preceptorship in primary care in a community-based setting outside of a hospital. The committee chose not to make such recommendations, either because the perceived benefits were considered not to be worth the costs, or because such proposals were considered less important to primary care education than the proposals which the committee adopted.

Residencies. Graduate medical education issues center on the training base, which can be a hospital, a physician solo or group practice, or a primary care clinic. Hospital-based residencies do not usually offer much experience in the continuity of care, and those hospital residencies which consist of a series of rotations among different hospital services may not be oriented toward primary care at all. In some settings, the ratio of residents to faculty members may be too high for effective personal instruction, whereas in other settings the ratios may be too low to facilitate residents' management of the care of a sufficient number of patients.

The committee weighed options to recommend or not to recommend that all medical schools be affiliated with primary care residency programs. The committee also considered whether to specify the type of institution where primary care residencies should be located and whether to specify other broad standards for residency training. It decided to recommend that (Recommendation #14) it is desirable that all medical schools direct or have a major affiliation with at least one primary care residency program in which residents have responsibility under faculty supervision for the provision of accountable, accessible, comprehensive, continual, and coordinated care.

A majority of the committee believes that a student graduating from a medical school should be able, if qualified, to obtain primary care training in a graduate program connected with his or her school. The committee would accept within the terms of this recommendation any residency program in which supervised residents deliver primary care as defined in Chapter 2. Graduate medical education in primary care should, in the committee's view, provide participants with experience in managing accessible, comprehensive, coordinated, and continual care in an accountable way, preferably as members of a multiprofessional team.

Admission standards. Student attitudes toward primary care reflect not only their experience in medical education but also previous experience and personality traits. Medical school applicants who have performed well in physical and natural sciences but poorly in the humanities and social sciences might be unlikely to choose or succeed in primary care careers, where social skills and interests are especially important. Researchers are beginning to examine the factors apparent in primary care career selection to determine whether medical school admissions examiners can test for them.

Another admissions issue, of great social and legal sensitivity, concerns policies to increase the share of students from minority and disadvantaged backgrounds. These policies are opposed by those advocating maximum test score and grade-point average admission standards and the rights of majority applicants. But the policies are supported on grounds of equal economic opportunities and on the assumptions that students from disadvantaged backgrounds will practice after graduation in primary care disciplines among underserved populations and will sensitize fellow students to the problems and way of life of minority groups. Black physicians are believed to cluster more heavily than white physicians in metropolitan areas containing underserved populations and may be especially likely to be family or general practitioners. 33/

(Recommendation #15) In selecting among applicants for admission, medical schools should give weight to likely indicators of primary care selection. Indicators now being investigated include an affinity for personal service, interpersonal skills, ability to function as part of a team, and training in behavioral and social sciences and related

experience - although evidence linking these attributes to primary care achievement is not yet well developed.

Besides emphasizing indicators of primary care career selection, medical school admission committees are encouraged to accept and seek out candidates who are likely to practice among medically underserved populations. Shortages of primary care practitioners may be especially severe or detrimental in inner cities and rural areas. The committee also believes that continued special attention should be given to admission of minority students.

Curriculum. Medical school curricula in the first two years of school are weighted heavily toward the traditional basic sciences. In a sample of 14 medical schools in 1972-73, these sciences accounted for 94 percent of faculty members' classroom instructional hours. 34/ Didactic instruction in the basic sciences is applied and somewhat recapitulated in student rotations among clinical services in teaching hospitals where cases are disproportionately complex and critical.

The committee is aware of recent reforms that have introduced epidemiology, medical ethics, and some social science into the curriculum. The committee believes that such topics, when taught with sufficient resources and skill, can help assure the breadth and quality of medical education.

(Recommendation #16) Undergraduate medical education should provide students with a knowledge of epidemiology and aspects of behavioral and social sciences relevant to patient care. Prospective physicians should be presented with an array of course material, suitably taught, that might be helpful in understanding and communicating with patients.

A combination of public funding and imaginative policies on the part of educators could make choices of study opportunities available in such fields as epidemiology, sociology, psychology, communications, economics, political science, history, anthropology, ecology, ethology and other new or continuing disciplines which can offer primary care physicians insight into patients' problems and behavior. Of course, students with prior training in these subjects should not be required to repeat course material in medical school. Nor do these subjects need to be taught in separate courses rather than integrated into existing courses and clinical training.

Related to matters of curriculum is the composition of medical school faculties. The presence of faculty role models may be important in encouraging students to plan for careers in primary care. Since faculty prestige usually rests on accomplishments in research, greater efforts in primary care research by medical school faculty members might help persuade medical students of the scientific and direct social worth of primary care. Such research could lead to improved diagnostic and triage techniques, superior or simpler treatments for common health problems, illness prevention, and innovative health care delivery methods. 35/

Primary care clinical experience. Because primary care providers manage most problems presented to the health care system, 36/ clinical exposure to primary care practice is an important feature of the contemporary education of all medical practitioners. In the committee's judgment, clinical primary care experience is as important in medical education as a clinical rotation among the services of a teaching hospital. For that reason, and because the public expects any physician to be able to respond to medical emergencies and simple health problems, the committee decided to recommend a mandatory primary care component in clinical undergraduate medical education.

(Recommendation #17) Medical schools should provide all students with some clinical experience in a primary care setting. Suitable primary care experience can be obtained in academic medical centers, under faculty supervision in nearby clinics or offices, or under preceptorships. Brief service with a provider of primary care as defined in Chapter 2 provides students with experience in the rendering of accessible, comprehensive, and coordinated care by an accountable provider and can demonstrate the nature of continual care. Such experience also can provide students with primary care role models.

Team training. Effective learning situations involving health care teams are not easily structured. But even difficulties in creating an efficient team offer opportunities to practitioners and students who must experiment in communication, act sensitively, and keep patient needs uppermost in mind while functioning as part of an interdisciplinary team. The committee favors a team approach in primary care training because multiprofessional teams are best able to provide comprehensive and coordinated care and because the committee expects team training to promote beneficial interprofessional relationships.

While recommending a team approach to primary care training, the committee recognizes that team training may cause some unintended effects. For example, it could create friction between professions, result in inefficient patterns of group rather than individual decision-making, or confuse patients in clinical settings about responsibility for different aspects of their care. On balance, however, the committee is confident that the advantages of team training far outweigh the disadvantages. One advantage is the preparation of professionals to serve in a health care system that is increasingly relying on collaborative relationships. Other advantages are cooperative rather than fractionated multiprofessional care and more beneficial use of the expertise of each profession or discipline.

(Recommendation #18) Medical schools and primary care training programs should teach a team approach to the delivery of primary care. The primary care team might include only one primary care physician and a new health practitioner. Or it might include other types of physicians, such as psychiatrists, who offer perspectives on particular problems. The team also might include other professionals - such as social workers, dietitians, and allied health workers - who can perform specific services

capably and sometimes at lower cost than physicians. The public's need for all members of the team, as practitioners and in the training of primary care physicians, should be recognized, in the committee's opinion, in distributing support for health professions education.

These recommendations for promoting primary care medical education are meant to be implemented in concert. The emergence of primary care as a major area of medical school activity requires change across all levels of medical education. Moreover, advances in primary care education are important not only in medical education but also in the education and training of other health professionals - although this chapter concentrates on the education of physicians as the most common practitioners of primary care.

CREDENTIALING POLICIES

Education of primary care practice proceeds under the assumption that graduates of the education programs will be allowed to perform the primary care services for which they were trained. Credentialing - the processes of approving individuals to practice health professions and accrediting education programs - therefore is an important aspect of education policy.

Credentialing of Primary Care Practitioners

Credentialing of health professionals is done under the authority of governments or professional associations. The federal government has a credentialing interest because federal reimbursement programs--such as Medicare, Medicaid, and any system of national health insurance--must contain criteria for determining who is eligible for payment. State governments are directly involved in credentialing, because states have inherent constitutional authority to protect the health of their inhabitants through regulation and therefore to license health care practitioners.

The credentialing activity of professional associations includes the specialty certification of physicians by medical specialty organizations, the specialty certification of nurse practitioners by organized nursing, and the certification of physician assistants who have passed a national examination developed jointly by the National Board of Medical Examiners and the American Medical Association. Certification is largely an honor that in some cases helps an individual obtain employment, public reimbursement, higher pay, or institutional privileges; licensure is actual governmental authority to practice a particular profession.

Physician practice acts, or licensing laws, provide for the licensure of doctors of medicine and osteopathy. Licensing boards in all states confer upon every legally qualified physician, and only physicians, the right to perform the full range of medical and surgical procedures, both

diagnostic and therapeutic. This situation does not reflect recent trends in specialized training that prepares some physicians to deliver primary care while others are trained mainly to perform surgical or other specialized procedures.

In recent years, most states have amended physician and nurse practice acts to allow new health practitioners to perform some medical procedures under various conditions. These recommendations have been of two kinds. Simple authorization amendments (also called delegatory amendments) permit nurse practitioners and physician assistants to perform procedures delegated or assigned to them by supervising physicians or employers. Regulatory amendments, in contrast, mandate state medical licensing boards or other official bodies to authorize practice by nurse practitioners and physician assistants under conditions set by law and regulation. Another approach is to license members of the new profession just as physicians and nurses are licensed. Licensure of new health practitioners has been enacted only in the case of child health associates in Colorado. 37/

Credentialing Issues and the Use of Nurse Practitioners and Physician Assistants

Many issues center on credentialing. In fact, development of the state nurse practitioner and physician assistant amendments has helped reopen the questions of how, by whom, and when health professionals should be credentialed.

The debate encompasses a wide range of opinions, stretching from the view that the federal government should be the ultimate credentialing authority to the view that no public agency should undertake to decide who can perform any specific health service. The debate further addresses mandatory continuing education and includes an interprofessional colloquy over which professions are qualified to perform specific services.

Some aspects of the credentialing debate may be considered especially relevant to primary care. In particular, there are several nationally unresolved questions about the credentialing of nurse practitioners and physician assistants. Among the most pressing questions are the following:

First, should states authorize nurse practitioner and physician assistant practice through regulatory or simple authorization amendments or through strict licensure? Regulatory amendments are the most common method and allow for some control by regulatory boards over the use of new health practitioners. Simple authorization amendments leave professional responsibilities rather vague and permit decisions about use of nurse practitioners and physician assistants to be made in the private sector by health care providers and patients. Licensure suggests rather strict control on the part of licensing boards with minimal opportunity for innovative practices.

Second, should nurse practitioners and physician assistants have the same scope of practice? Thus far, there is no clear state legislative trend for distinguishing between medical services which nurse practitioners can provide and those which can be performed adequately by physician assistants. Yet these two personnel categories may have quite different qualifications, epitomized by the previous nursing education of nurse practitioner trainees. For example, psychosocial services are emphasized in the education and training of most nurses. These services are different from medical acts, although the distinction between medical and nursing services is blurred and marked by different points of view and changes over time.

The third credentialing question is how broad the scope of practice should be. Medical diagnosis, treatment judgment and modification, and the prescription and dispensing of drugs are all types of medical services that nurse practitioners and physician assistants can perform under some state laws. Drug prescription is an especially sensitive area, involving doubts over the sufficiency of scientific knowledge of new health practitioners as well as doubts that they can perform effectively, especially in areas with few physicians, unless they are able to prescribe medication.

Fourth, how much supervision should be required of new health practitioners? In some states, physicians must be on the premises where nurse practitioners or physician assistants perform medical services. Another type of state restriction prohibits any physician from supervising more than one or two new health practitioners. Studies so far have not shown the quality of care to be superior where these restrictions are present. 38/ Related to this question is the propriety of independent practice by new health practitioners. The relationship of physicians to these practitioners might be one of supervision or of collaboration and referral - hallmarks of independent practice.

Finally, should qualifications include graduating from approved education programs or passing an approved examination? Some nurses or other health personnel may be qualified to provide some medical services without participating in nurse practitioner or physician assistant programs, but the costs of unnecessary formal education of these individuals may be worth the risk that experienced but unqualified personnel could be credentialed if formal education were not required. An additional qualification question is whether practitioners should be required to participate in continuing education programs.

These questions, and others like them, are complicated by the fact that they ordinarily cannot be answered empirically unless state laws are amended to permit the existence of both experimental and control groups. State laws regularly require adherence to the state controls, so that experimental credentialing practices usually are illegal.

The Issue of Accreditation Authority over Nurse Practitioner Programs

There appears to be no serious question that the medical profession should be largely responsible for accrediting programs to train physician assistants. The essential contribution of physician assistants to primary care is to help medicine and other professions provide needed medical services capably and economically, and therefore the education programs offer training in those services that physicians are likely to delegate to physician assistants. The medical profession thus has a major interest in the quality and scope of physician assistant programs.

But in the case of nurse practitioner programs, accreditation authority is a less precise issue. These are nursing programs for registered nurses, so that the nursing profession has an obvious interest in continuing to accredit and supervise them. Nurse practitioner certificate training programs now are accredited by the American Nurses' Association as continuing education programs, while master's degree programs are accredited by the National League for Nursing. Yet the medical profession also is vitally interested in programs that train nurses to provide medical services. In any event, standards of nurse practitioner programs may now be too flexible, for the programs range from brief graduate courses to two-year master's degree programs. 39/ Such diversity in the length and rigor of education programs may create confusion over the role and capabilities of nurse practitioners generally.

Although the professions have important responsibilities in program accreditation, there is some opinion that professional power over education programs protects professional monopolies and that accreditation should be a responsibility of the entire public. Against that opinion is the view that professionalism requires professional standards of education and academic freedom from regulation.

Options and Recommendations

The committee considered four alternatives for a national policy of public credentialing of nurse practitioners and physician assistants:

- enactment of regulatory amendments for the authorization of nurse practitioner and physician assistant practice in all states
- simple authorization amendments in all states
- state licensure
- making no change in policy.

The committee favors the first alternative. Licensure of new health practitioners was rejected by the committee because of the belief that licensure would restrict innovation without necessarily protecting the

quality of care. A course of leaving the matter in its present situation was rejected because the absence of state authorization of nurse practitioner and physician assistant practice is perceived as a barrier to the utilization and geographic mobility of these groups. The present situation includes great variation among the states and confusion over the rights of nurse practitioners and physician assistants in states where laws have not been amended to authorize practice by new health practitioners.

A minority in the committee prefers simple authorization amendments which maximize flexibility; but most members believe that regulatory amendments offer the best protection against abuse and restrictive practices by placing regulatory control in a state agency.

The committee recognizes the sharp contrast in current opinions on licensure of nurse practitioners and physician assistants. In particular, strong views are held on the questions of whether new health practitioners should be allowed to make medical diagnoses and prescribe drugs and whether laws should require them to be under physician supervision when delivering medical services.

For example, nursing leaders often advocate an expanded scope of practice for nurses, reject language classifying diagnoses and treatment as "medical" services, and prefer interprofessional collaboration and referral to physician supervision.* The committee agrees that new health practitioners must be afforded a fairly broad scope of practice, but a majority of the committee believes that new health practitioners should be supervised by physicians. Ultimately, physician supervision of nurse practitioners may give way to equal joint referral and joint practice arrangements; now, however, even though joint practice relationships are beginning to occur and succeed in many sites, physician supervision seems to most members of the committee to be necessary for universal acceptance of nurse practitioners and physician assistants in general.

(Recommendation #19) Amendments to state licensing laws should authorize, through regulations, nurse practitioners and physician assistants to provide medical services, including making medical diagnoses and prescribing drugs when appropriate. Nurse practitioners and physician assistants in general should be required to perform the range of services they provide as skillfully as physicians, but they should not provide medical services without physician supervision.

This recommendation is intended to foster the development of broadly worded scopes of practice commensurate with the skills, knowledge, and potential capabilities of nurse practitioners and physician assistants.

*See comment by Loretta C. Ford, R.N., Ed.D.

The recommendation rules out independent practice (in the sense of performance of medical acts by new health practitioners), because most committee members believe that some physician supervision is necessary, although the requisite degree of supervision may vary with circumstances. The recommendation leaves to regulatory agencies - which, in the committee's view, ideally would be consolidated on the state level - the task of establishing education qualifications, including qualifications for continuing education.

The committee expects that nurse practitioners and physician assistants will be liable for malpractice if they injure patients by not performing medical services as well as most physicians. A review of liability problems revealed that actual legal complaints of malpractice do not hinder physician assistant or nurse practitioner utilization. 40/ Legal duties and immunities appropriate to all primary care practitioners, including new health practitioners as well as physicians, include the reporting of both communicable diseases and child abuse and protection under good samaritan laws for emergency aid.

In approaching the issue of accrediting nurse practitioner training programs, the committee considered options to recommend either nursing or joint medical-nursing control of accreditation. The committee also considered encouraging greater uniformity through the development of standards for the length and rigor of the education programs. The alternative to greater uniformity is continued diversity through the absence of stricter standards.

Recognizing that nurse practitioners are primarily nurses and that the development of nurse practitioner fields is a responsibility of nursing, the committee favors continued nursing control including authority to set more uniform program standards. The committee believes that this authority should be exercised, with the collaboration of other professions, to clarify nurse practitioners' status. In the committee's view, collaboration among professions is useful in accrediting all health professions education programs.

(Recommendation #20) The nursing profession should continue to have accreditation responsibility for nurse practitioner education programs and should establish requirements for nurse practitioner education and training, in collaboration with physicians and other health professionals. Speed is desirable in creating qualifications for education that assure recognition of nurse practitioners as highly educated and capable primary care practitioners.

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Chapter 5

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2. See Chapters 2-3.

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4. James A. Shannon, "Federal Support of Biomedical Sciences: Development and Academic Impact," Journal of Medical Education 51 (Supplement, July 1976): p. 85.

5. See John S. Millis, A Rational Public Policy for Medical Education and Its Financing, (New York: National Fund for Medical Education, 1971), p. 9.

6. Uwe E. Reinhardt, "Health Manpower Policy in the United States: Issues for Inquiry in the Next Decade," paper presented to the Bicentennial Conference on Health Policy, University of Pennsylvania, November 11-12, 1976 (mimeographed), pp. 13-4.

7. For further information, see staff paper, "A Compilation of Data on the Content of Primary Care Practice."

8. P.L. 94-484, Secs. 501(a), 502.

9. Milton I. Roemer, "Physician Extenders and Primary Care - An International Perspective," Urban Health (October 1976): 40-2.

10. See Chapter 3.

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12. James R. Cantwell, ed., Profile of Medical Practice, 1975-76 edition (Chicago: American Medical Association, 1976), pp. 80-1.

13. See staff paper, "Data on the Supply and Distribution of Primary Care Physicians."

14. Calculated from figures of the American Board of Medical Specialties, Annual Report, 1975-76, pp. 17-8.

15. 42 Fed. Reg. 223 (November 18, 1977).

16. See Chapter 2 checklist.

17. Henry Wechsler, Joseph L. Dorsey, and Joanne D. Bovey, "A Follow-up of Residents in Internal Medicine, Pediatrics and Obstetrics-Gynecology Training Programs in Massachusetts: Implications for the Supply of Primary Care Physicians," New England Journal of Medicine 298 (1978): 15-21.

18. William D. Holden and Edithe J. Levit, "Migration of Physicians from One Specialty to Another: A Longitudinal Study of U.S. Medical School Graduates," Journal of the American Medical Association 239 (1978): 205-9.

19. See Chapter 3.

20. Chapter 4; see especially Recommendation #10.

21. This authorization extends to primary dental as well as primary medical care programs. The figure is obtained by dividing in half the total authorization for the construction of teaching facilities, half of which is mandated for "ambulatory, primary care" facilities, contained in Sec. 302 of the Act, P.L. 94-484.

22. Authorization limits total 45 million dollars for fiscal years 1978-80 for family practice departments, 140 million dollars (less at least 14 million for general dentistry) for family practice residency programs, and 60 million dollars for general pediatrics and general internal medicine. P.L. 94-484, Sec. 801 (a).

23. The North Carolina AHEC program received initial funding under a 1969 authorization of the state legislature. Following execution of a DHEW contract for the development of three AHECs, the legislature in 1974 appropriated 23.5 million dollars to expand those three facilities and develop six new centers. See North Carolina Area Health Education Centers Program, Progress Report, 1975-76, pp. 5, 22.

24. Robert S. Stern et. al., "Graduate Education in Primary Care: An Economic Analysis," New England Journal of Medicine 297 (1977): 638-43.

25. Institute of Medicine, "Graduate Medical Education Costs and Sources of Supply," by Sunny G. Yoder and Joseph T. Brady

(Washington, D.C.: National Academy of Sciences, 1977, mimeographed), pp. 47, 49-50.

26. For a more comprehensive discussion of graduate medical education in primary care, see Robert J. Haggerty, "Graduate Physician Training in Primary Care," Journal of Medical Education 49 (1974): 839-44.

27. National Board of Medical Examiners, Report of the Committee on Goals and Priorities, Evaluation in the Continuum of Medical Education (Philadelphia: 1973), pp. 43-4.

28. These majors (in order of frequency) were psychology, mathematics, English, history, foreign language, psychobiology, philosophy, sociology; also political science, anthropology, economics, general studies, music, religion, and business. 2.4 percent of the entrants had engineering majors. 70.3 percent had majors in biology, chemistry, zoology, pre-med, biochemistry, microbiology, chemistry and biology, physics, other biological sciences, or physiology. Association of American Medical Colleges, Descriptive Study of Medical School Applicants, by Travis L. Gordon, DHEW Publication No. (HRA) 77-52 (1977), pp. 36-8.

29. American Academy of Family Physicians, "Annual Survey of Family Practice Residency Programs - Preliminary Results" (Kansas City: 1977).

30. Ibid., "Collection of Available Data on State Legislation and Funding for Family Practice Programs" (Kansas City: 1977, mimeographed).

31. Carnegie Commission on Higher Education, Higher Education and the Nation's Health: Policies for Medical and Dental Education (New York: McGraw-Hill, 1970), pp. 55-8.

32. Bureau of Health Manpower support for AHECs totaled 14 million dollars in fiscal 1977. In 1977 the federal AHEC program served 13 states and was expanded to establish new centers in Colorado, Pennsylvania, Maryland, and the District of Columbia. DHEW Health Resources Administration, News Release, October 27, 1977.

33. Most members of the predominantly black National Medical Association apparently practice in the cities of Baltimore, Washington, New York, Los Angeles, Chicago, Houston, Detroit, St. Louis, Atlanta, and San Francisco-Oakland. (National Medical Association, personal communication.) In 1972, 30 percent of black doctors of medicine in active practice were family or general practitioners, compared to only 18 percent of all active doctors of medicine. U.S. Department of Health, Education, and Welfare, "Characteristics of Black Physicians in the United States: Findings from a Survey," Health Resources Administration Report No. 75-147 (mimeographed, 1975).

34. "Basic sciences" in this context include anatomy, pathology, biochemistry, genetics, microbiology, immunology, pharmacology, and physiology. Instructional hours not spent teaching those basic sciences were instead devoted to behavioral sciences (four percent) or statistics, biometrics, or epidemiology (two percent total). Institute of Medicine, "Costs of Education in the Health Professions - Part II" (Washington, D.C.: National Academy of Sciences, 1974), p. 179.

35. Primary care research is discussed more fully in Chapter 4. See Recommendation #11.

36. See Chapter 2.

37. For a full discussion of credentialing of primary care practitioners, see staff paper, "Licensure of Primary Care Practitioners."

38. See Chapter 4.

39. See staff paper, "Education of Primary Care Practitioners."

40. For a discussion of this issue, see staff paper, "Legal Liability of Primary Care Practitioners."

Chapter 5

CONCLUSION: THE SCHEDULE OF IMPLEMENTATION

The changes in the health education and delivery systems advocated in this report will not occur all at once. Due to the significant magnitude of the recommendations, a transition period of some duration is needed for their accomplishment. And because different forces and barriers affect in different ways the achievement of different proposals, the implementation periods will vary.

Although there are differences in implementation, the recommendations of this report are linked with a common policy goal: an approrpiate supply of trained practitioners providing high-quality primary care to all populations in the country. In the committe's opinion, this goal is most likely to be attained if health policymakers adopt the entire strategy proposed in this report, rather than selecting only a few recommendations to implement. Primary care practitioners should be encouraged to serve underserved populations, and they should be paid fairly no matter where they practice. An adequate percentage of physicians should be trained in primary care specialties, and they should be taught a full range of primary care practice skills, including communication with patients and other professionals. The recommendations of the report are general in form to allow for diversity and fine-tuning in implementation, but each recommendation is considered important to the success of an adequate and integrated primary care manpower policy.

The following schedule of prerequisites, time periods, and responsible groups is a suggested guide for implementation of the recommendations. The guide is not meant to be absolute or exhaustive. Its purpose is to draw attention to key requirements for implementation, to suggest an appropriate time frame, and to focus the interest of the parties most responsible. This schedule is only one set of initiatives that could be taken by these and other groups.

Prerequisites include policy actions, research results, and changes in social attitudes. A prerequisite for implementation of a recommendation is an advancement which would make the recommendation more feasible, more widely acceptable, and more cogent.

Time periods represent a balance between the urgency of the recommendations and the need to overcome or satisfy perceived obstacles, such as academic inertia or delays in the operation of

political bodies. It seems impossible to choose scientifically the number of years needed to implement a broad policy recommendation, but the committee is emboldened by a desire to see these recommendations achieved without the necessity of convening another study group to survey a basically unchanged landscape ten years from now. A one-to-three year period is prescribed for manpower legislation, a one-to-five year period is suggested for legislative change in health care financing, and a four-year maximum is used for academic policy changes not requiring major research progress.

The term responsible groups is partly a misnomer, for responsibility extends to individuals as well as groups. The recommendations can be enacted only if health policymakers, academicians, providers, third-party payors, and other publicly accountable persons are responsive. Ordinarily, however, a particular government agency or a collection of private interests has major responsibility for an area of recommendation.

Federal agencies have been designated on the basis of apparent spheres of activity following the 1977 reorganization of DHEW. No attempt has been made to designate particular state agencies, because state governments use various organizational arrangements to regulate health.

Groups have been noted as responsible not only when they are in a position to implement the recommendation itself, but also when they can help attain a prerequisite or can provide guidance or pressure for implementation. The Association of American Medical Colleges (AAMC) and the federal Bureau of Health Manpower are examples of the last type of responsible group. In addition, the public - as consumers, citizens, and taxpayers - has an interest in the entire area covered by the recommendations. Public attention to the development of primary care manpower policy will help assure the linkage of that policy to improvements in the health care system.

Recommendation #1

Because no practice arrangement has been found superior to any other, primary care as defined in this report should continue to be delivered by various combinations of health care providers in a variety of practice arrangements.

Prerequisites: Education of different categories of practitioners to provide primary care; freedom for providers to use diverse primary care settings.

Time required: None

Responsible groups: Association of American Medical Colleges (AAMC), medical and health professions schools, federal and state legislatures (to assure sufficient funding of education

programs and to show restraint in regulating providers), third-party payors, providers of care.

Recommendation #2

For the present, the number of entrants to medical school should remain at the current annual level.

Prerequisites: Acknowledgement that this is only a pause pending more information and monitoring of the following: the level of public demand for medical care; substitution of physicians by new health practitioners; and the productivity and flexibility of different physician configurations and types of practitioners in serving different populations and meeting different needs.

Time required: Ten to fifteen years.

Responsible groups: Medical schools, the Congress, Health Resources Administration of DHEW, the states.

Recommendation #3

For the present, the numbers of physician assistants and nurse practitioners trained should remain at the current annual level.

Prerequisites: Acknowledgement that this is only a pause pending more information and monitoring of the following: the level of public demand for the provision of medical and other services by new health practitioners; the substitution of physicians by new health practitioners; and the productivity and flexibility of different interprofessional configurations and types of practitioners in serving different populations and meeting different needs.

Time required: Ten to fifteen years.

Responsible groups: Training programs, the Congress, Health Resources Administration of DHEW, the states, private funders of new health practitioner training programs.

Recommendation #4

Third-party payors (federal, state, and private) should reimburse all physicians at the same payment level for the same primary care service.

Prerequisites: Knowledge or belief that the service is performed adequately, or at the same general level of competence, by physicians in different specialties or practice arrangements.

Time required: One to five years.

Responsible groups: The Congress, Health Care Financing Administration of DHEW, Blue Shield and other insurance carriers.

Recommendation #5

Third-party payors (federal, state, and private) should reduce the differentials in payment levels between primary care procedures and non-primary care procedures.

Prerequisites: Awareness that changes in physician fee structures will be resisted; enhanced recognition of the medical value of primary care vis-a-vis surgical and tehnological services; more data on extent of differentials.

Time required: One to three years is required to institute change, although a generation may be required to complete the process by ending inappropriate financial discentives to primary care practice.

Responsible groups: Health Care Financing Administration of DHEW, state Medicaid authorities, fiscal intermediaries and insurance carriers in cooperation with hospitals, clinics, and other providers of care.

Recommendation #6

Third-party payors (federal, state, and private) should institute payments to practice units for those necessary services delivered

by primary care providers and currently not reimbursed, such as commonly accepted health education and preventive services.

Prerequisites: Knowledge that such services are medically beneficial or desired by patients; more study of prepayment capitation as an alternative to fee-for-service payment.

Time required: One to three years to institute payments, with subsequent adjustments as appropriate.

Responsible groups: Health Care Financing Administration of DHEW with congressional approval, state Medicaid authorities, Blue Shield and other insurance carriers, unions, business and other purchasers of health insurance, National Center for Health Services Research of DHEW.

Recommendation #7

Training programs for family physicians, nurse practitioners, and physician assistants should continue to receive direct federal, state, and private support, because these practitioners are the most feasible providers of primary care to underserved populations.

Prerequisites: Well-designed and administered training programs.

Time required: None

Responsible groups. The Congress, Bureau of Health Manpower of DHEW, the states, potential private funders of training programs for family physicians and new health practitioners.

Recommendation #8

Third-party payors (federal, state, and private) should discontinue all geographic differentials in payment levels for physician services within a state.

Prerequisites: Knowledge or belief that such differentials are unfair or discourage physicians from practicing primary care in rural areas.

Time required: One to five years.

Responsible groups: The Congress, Health Care Financing Administration of DHEW, state Medicaid authorities, fiscal intermediaries and insurance carriers.

Recommendation #9

Third-party payors (federal, state, and private) should reimburse the practice unit for the same primary care services at the same payment level regardless of whether the services are provided by physicians, nurse practitioners, or physician assistants.

Prerequisites: Knowledge or belief that the services are performed adequately or at the same general level of competence by all three professional groups; knowledge or belief that payment differences among the three groups are unfair or comprise a financial disincentive for nurse practitioner or physician assistant practice.

Time required: One to five years.

Responsible groups: The Congress, Health Care Financing Administration of DHEW, state Medicaid authorities, Blue Shield and other insurance carriers.

Recommendation #10

There should be an active, continuous program for monitoring a number of factors including the numbers and specialty and geographic distribution of physicians, nurse practitioners, and physician assistants, and also for monitoring the perceptions of the patient population regarding the adequacy and availability of primary care services.

Prerequisites: Better coordination of health services research, including establishment of a long-term monitoring program; a more adequate data base.

Time required: This should begin within a year.

Responsible groups: The Health Resources Administration, National Center for Health Statistics, and National Center

for Health Services Research of DHEW, and other research organizations, sponsors, and workers.

Recommendation #11

An increased emphasis should be given to health services research in primary care manpower.

Prerequisites: Recognition of the limits of available data; an adequate supply of researchers.

Time required: None

Responsible groups: The National Centers for Health Statistics and Health Services Research of DHEW, the Health Care Financing Administration of DHEW, and other research organizations, sponsors, and workers. (Examples of research sponsors are foundations, universities, and the Veterans Administration.)

Recommendation #12

The committee recommends a substantial increase in the national goal for the percent of first-year residents in primary care fields.

Prerequisites: In the long run, more information about population needs for primary and non-primary care services, the productivity and geographic mobility of primary care physicians, the volume of primary care services provided by different physician specialties and different manpower configurations, and the effects of primary care residency training on physician decisions to limit their practice to primary care; in the short run, belief that most physicians should be primary care practitioners, that primary care physicians should receive specialty training in primary care, and that most physicians now in practice are not mainly primary care practitioners.

Time required: One to three years.

Responsible groups: AAMC and medical schools, the Congress, Bureau of Health Manpower and National Centers for Health Statistics and Health Services Research of DHEW, the states,

health services researchers and research sponsors, medical specialty societies, Coordinating Council of Medical Education.

Recommendation #13

Federal and state governments should continue to promote primary care partly by using financial incentives for the creation and support of primary care residency programs.

Prerequisites: Acknowledgement that primary care residency programs need assistance until becoming more firmly established.

Time required: None

Responsible groups: The Congress, Bureau of Health Manpower of DHEW, the states.

Recommendation #14

It is desirable that all medical schools direct or have a major affiliation with at least one primary care residency program in which residents have responsibility under faculty supervision for the provision of accountable, accessible, comprehensive, continual, and coordinated care.

Prerequisites: Sufficient supply of primary care residency training settings.

Time required: One to three years.

Responsible groups: Medical schools, AAMC, Liaison Committee on Medical Education, Bureau of Health Manpower of DHEW (for funding).

Recommendation #15

In selecting among applicants for admission, medical schools should give weight to likely indicators of primary care career selection.

Prerequisites: More information about factors affecting primary care career selection; acknowledgement that such

indicators are legally and academically valid admissions criteria.

Time required: Now to five years.

Responsible groups: AAMC and medical schools, Liaison Committee on Medical Education, Bureau of Health Manpower and National Center for Health Services Research of DHEW, social researchers and research sponsors.

Recommendation #16

Undergraduate medical education should provide students with a knowledge of epidemiology and aspects of behavioral and social sciences relevant to patient care.

Prerequisites: Sufficient supply of capable instructors, other educational resources, and practice settings where the importance of such subjects can be illustrated.

Time required: Begin now.

Responsible groups: AAMC and medical schools; Liaison Committee on Medical Education; potential federal, state, and private funders of medical education.

Recommendation #17

Medical schools should provide all students with some clinical experience in a primary care setting.

Prerequisites: Sufficient supply of capable clinical faculty and preceptors and of primary care settings.

Time required: Two to four years.

Responsible groups: AAMC and medical schools; Liaison Committee on Medical Education; Bureau of Health Manpower of DHEW; potential federal, state, and private funders of programs in primary care clinical medical education, including AHECs.

Recommendation #18

Medical schools and primary care training programs should teach a team approach to the delivery of primary care.

Prerequisites: Interprofessional collaboration among faculty and clinical instructors; faculty acknowledgement of the advantages of team training and the difficulties of implementing it; sufficient supply of faculty capable of teaching a team approach.

Time required: Now to four years.

Responsible groups: AAMC and medical schools; other health professions schools, graduate training institutions and educational organizations; accrediting bodies; Bureau of Health Manpower of DHEW; potential federal, state and private funders of programs in primary care education.

Recommendation #19

Amendments to state licensing laws should authorize, through regulations, nurse practitioners and physician assistants to provide medical services, including making medical diagnoses and prescribing drugs when appropriate. Nurse practitioners and physician assistants in general should be required to perform the range of services they provide as skillfully as physicians, but they should not provide medical services without physician supervision.

Prerequisites: Revision of state practice and regulations where necessary.

Time required: Now to three years.

Responsible groups: State legislatures and health professions regulatory agencies.

Recommendation #20

The nursing profession should continue to have accreditation responsibility for nurse practitioner education programs and should establish requirements for nurse practitioner education

and training, in collaboration with physicians and other health professionals.

Prerequisites: Acceleration of present efforts to develop more uniform standards for nurse practitioner education.

Time required: Two years.

Responsible groups: American Nurses' Association, National League for Nursing.

COMMENT

Loretta C. Ford, R.N., Ed.D.
Dean and Director of Nursing
University of Rochester Medical Center
March 1978

Over the past two years, the Institute of Medicine's Committee to Study an Integrated Manpower Policy for Primary Care reviewed informative and analytical papers prepared by project staff members and grappled with the conceptual and contextual problems of defining primary care and setting forth recommendations for this report. Upon reviewing the final draft of the report, I find myself, as a nurse practitioner and educator, with certain reactions and reservations. This comment explains those reactions and expresses concern about some of the recommendations, particularly those dealing with the relationship of the physician to the nurse practitioner.

Throughout the report, recognition is given to the "goodness of fit" between the kinds of health problems for which people seek services and the roles of non-physicians, nurse practitioners, and physician assistants as providers of primary care. Emphasis on teamwork, equal reimbursement, accountability for all professionals, and the need for a data base and research to determine manpower needs are all laudable aspects of the report.

However, there are noticeable imbalances and incongruities that I am compelled to mention. Despite the heroic efforts of some committee members to balance the health vis-a-vis illness content, the medical and economic issues permeate the report without adequate consideration for addressing the unmet needs of people. The maintenance of health, early management of health problems designed to prevent hospitalization or institutionalization, and the creation of incentives for self-care received too little attention.

Incongruities also are apparent between the content of the report and some of the recommendations. I take particular exception to Recommendation #19 which singles out medical acts in delivering primary care and specifically calls for physician supervision of nurse practitioners. The effective domain for which professionals other than physicians are primarily responsible, for example, nursing acts or pharmacy acts, is not mentioned. My review of 24 state nursing practice laws, which were changed to accommodate expanded role functions, reveals that only two statutes have used the phrase "physician supervision."

Primary care is a complex, problem-oriented issue that does not lend itself to solution through the skills and controls of one discipline. True interdisciplinary behavior must be learned by the providers with an acceptable distribution of power, control, and accountability. Some explorations of new and evolving relationships which are worthy of continuing study are described in the publications of the National Joint Practice Commission and the Academy of Nursing.*

In summary, my major concern is that incongruities exist between the text of the report and some of the recommendations; this will limit the usefulness of the report in establishing cogent public policies for health. Instead of taking the giant steps for preparing teams of health professionals to deliver primary care to all the people of this nation, only small steps will be taken and token changes made. Once again, we will experience "dynamics without change" in health policies.

*Together: A Case Book of Joint Practices in Primary Care, National Joint Practice Commission, editor Berton Roueche, Chicago, 1977.

Primary Care By Nurses: Sphere of Responsibility and Accountability, American Academy of Nursing Annual Meeting, September, 1976, Kansas City, 1977.

Joint Practice in Primary Care: Definitions and Guidelines, National Joint Practice Commission, Chicago, adopted September, 1977.